2011

A Construct Validity Study of Differentiation of Self Measures and their Correlates

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A CONSTRUCT VALIDITY STUDY OF DIFFERENTIATION OF SELF MEASURES AND THEIR CORRELATES

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Submitted in partial Fulfillment
of the Requirements for the Degree
PH.D. in Marriage and Family Counseling
College of Education and Human Services
Seton Hall University

2011

SETON HALL UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN SERVICES
OFFICE OF GRADUATE STUDIES

APPROVAL FOR SUCCESSFUL DEFENSE

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Construct Validity Study of Differentiation of Self Measures and Their Correlates

Abstract

This study was undertaken to examine the contributions of several differentiation-of-self measures to the construct validity of differentiation of self as conceptualized by Bowen (1978). Differentiation of self connotes a multidimensional and complex process of distinguishing self, at the levels of reasoning and emotional functioning from a family system. Bowen connected differentiation of self with reported levels of chronic anxiety. Construct validity of a measurement tool utilized to determine the level of differentiation of self is critical to the integrity of any research study designed to measure family functioning from a Bowenian perspective. In this study, five instruments intended to measure differentiation of self were examined using a clinical and nonclinical sample. These instruments included the Differentiation of Self Inventory (DSI) (Skowron & Friedlander, 1998), the Personal Authority in the Family System Questionnaire (PAFS-Q) (Bray, Williamson & Malone, 1984), The Trait Version of the State Trait Anxiety Inventory (STAI-T) (Spielberger, Gorsuch & Lushene, 1970) and the Symptom Checklist 90-R (SCL-90R) (Derogatis, 1994), Social Readjustment Rating Scale (Holmes & Rahe, 1967). Results suggested partial support for the hypothesis that married adults with higher levels of differentiation of self would show lower levels of anxiety, triangulation, spousal fusion, psychiatric dysfunction and life-stress events and higher levels of intimacy than married adults with lower levels of differentiation of self. Contrary to the proposed hypothesis, married adults with higher levels of differentiation of self scored significantly higher on anxiety. As predicted, clinical sample participants demonstrated higher levels of anxiety, triangulation, spousal fusion, psychiatric dysfunction and life-stress events and lower levels of differentiation of self and intimacy than nonclinical samples. Partial support was

found regarding significant relationships between differentiation-of-self measures. Participants in the nonclinical sample were more educated. The groups were not balanced on education and cultural representation. To adequately measure differentiation of self, comparison groups must be balanced on all demographic variables. Incomplete data limited drawing generalizable conclusions.

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CHAPTER I

BACKGROUND OF THE PROBLEM

Introduction

The construct validity of differentiation of self is critical to research on family functioning, so that family psychologists can move beyond the theoretical definitions of concepts and begin understanding what constitutes a functional and dysfunctional family. Murray Bowen (1978) coined the term, "differentiation of self" (p. 976), in an attempt to describe a concept that incorporates a manner of functioning within a family system. Researchers have since developed tools using the construct differentiation of self as a means of measuring family functioning. In developing these tools, researchers have tested and provided evidence for construct validity of differentiation of self. Construct validity of differentiation of self provides reassurance that the

instrument measures the concept it was designed to measure. While construct validity is important in initial development, there is continuing value in further testing of construct validity. Construct validity is the process that is most fundamental when considering the development of, and evaluation of, tests (American Educational Research Association, American Psychological Association & National Council on Measurement in Education, 1999).

A review of the literature on construct validity and differentiation of self finds that determining whether a measurement tool can actually capture this widely accepted theoretical construct is critical. Development of a measurement tool must include all variables of the construct, differentiation of self, or the operational definition will fail to reflect the construct adequately and the test will not measure what it purports to measure. While several measures of differentiation of self have been developed, existing measures do not fully address all of Bowen's theoretical concepts in the development of construct validity regarding the construct, differentiation of self.

In the following pages, construct validity and differentiation of self are discussed. For a test to measure differentiation of self, key factors of the theoretical construct must be included in the operational definition. The existing assessment tools that measure differentiation of self provide some evidence of construct validity, but are missing critical aspects of the theoretical concept. Thus, the operational definitions are not adequate and fail to adequately measure the construct, differentiation of self. It is the purpose of this research study to present a review of the literature on the construct validity of differentiation of self, and to provide evidence for what must be included in an operational definition of differentiation of self if a measurement tool is to adequately test the theoretical concept of Bowen Family Systems Theory.

Background of the Problem

The examination of what constitutes a valid measure within the social sciences has been studied since the early 1950's (Cronbach & Meehl, 1955). Since then, there has been a proliferation of measurement tools that have sought to provide accurate assessments of family functioning (Bray, 1995). In past years, several authors have made it clear that many assessment tools developed to measure family functioning fall short of providing a clear link between theory and assessment (Anderson & Sabatelli, 1990; Bohlander, 1995; Bray, 1995; Bray, Williamson, & Malone, 1984; Campbell & Fiske, 1959; Gavazzi, Reese, & Sabatelli, 1998; Haber, 1993; Hoskins, 1993; Miller, Anderson, & Keala, 2004; Sabatelli & Bartle, 1995; Skowron & Friedlander, 1998).

Construct validity involves the examination of the fit between conceptual definitions and the operational definitions of variables described within that concept (Lobiondo-Wood & Haber, 1994). The conceptualization process links theory and assessment and enables a researcher to develop measurement tools that are based upon a theoretically defensible set of premises (Sabatelli & Bartle, 1995). When a measurement tool uses operational definitions that represent a construct, and when empirical testing confirms the relationship that would be predicted among them, construct validity is supported (Burns & Grove, 1993). This bolsters the body of theory underlying the construct and the validity of the testing of the hypothesized relationships (Campbell, 1960).

A construct represents a postulated attribute of persons or relationships that is assumed to be reflected in test performance (Cronbach & Meehl, 1955). Exploring construct validity involves examining the theoretical construct and whether an instrument is able to reflect the construct it purports to measure (LoBiondo-Wood & Haber, 1994). Construct validity was devised as a method to investigate the validity of a specific process and how it relates to other

measures that are consistent with other theoretically derived hypotheses regarding the constructs being measured (Zeller & Carmines, 1980).

Establishing construct validity comprises a complex process that can often involve several studies and several approaches to measuring a construct (Burns & Grove, 1993; Campbell & Fiske, 1959). Cronbach and Meehl (1955) contended that construct validity is not to be identified singularly by any one particular investigative procedure. The aim of this research is to engage in a process to explore a theoretical network that surrounds the concept being measured (Zeller & Carmines, 1980). Cronbach and Meehl (1955) referred to the interlocking system of constructs that constitute a theory as a "nomological network" (p. 290). It is better to defend the value judgments embedded within an assessment tool when they are built upon a theoretically defensible set of premises (Sabatelli & Bartle, 1995). All measures of family functioning represent a value position or a construction of what an effectively functioning family looks like. When measurement tools are developed without a clear theoretical basis, the focus of the research can be skewed, and the results become faulty or meaningless.

Theoretical Constructs of Bowen Family Systems Theory

In recent years, family systems theory has dominated family researchers' attempts to conceptualize and assess family functioning. Bowen Family Systems Theory provides one of the most elaborate and comprehensive conceptualizations of the processes of family functioning. Being able to accurately reflect the processes of family functioning using elaborate and comprehensive conceptualizations such as Bowen Family Systems Theory is necessary, and is what Cronbach and Meehl (1955) referred to as a "nomological network". While many researchers have attempted to develop measurement tools to study constructs within Bowen

Family Systems Theory, there is not a consensus in the literature regarding which of these tools more adequately measures the construct of differentiation of self.

The concept of differentiation of self represents the cornerstone of Bowen Family Systems theory. It constitutes one of eight separate concepts that make up the theory. The remaining seven Bowen Family Systems concepts are: nuclear family emotional system, multigenerational transmission, emotional triangle, family projection process, sibling position, emotional cutoff, and societal regression.

Systems theorists view *Homo sapiens* as a product of evolution, and as governed by the same natural laws that govern all life on earth (Bowen, 1978; Friedman, 1991; Kerr, 1984; Kerr & Bowen, 1988). This has endowed humans with an emotional system that, when disturbed, is believed to play a critical role in physical, social, and emotional dysfunctions. Human beings are not only descended from nature, but remain an integral part of nature.

The terms "emotions" and "feelings" are not used synonymously in family systems theory. Bowen defined feelings as "a human's awareness of the superficial aspects of his or her emotional system". They are cerebrations about emotions that are closely related to instincts and that govern emotional reactions. The intellectual system is what permits *Homo sapiens* to observe the emotional system and to define the principles that govern it. Bowen (1978) postulated that emotional illness occurs when the emotional system floods the intellectual system and impairs intellectual functioning. In serious emotional illness, there are varying degrees of fusion between the emotional system and intellectual system. The greater the fusion between the emotional and intellectual system, the more the life is governed by the automatic emotional forces that operate. The greater the fusion, the more the individual is governed by the emotional

fusions of people around them. The greater the fusion, the more vulnerable the human is to physical illness, social illness and emotional illness (Bowen, 1978; Kerr & Bowen, 1988).

The nuclear family emotional system is a construct in Bowen theory that is interdependent with differentiation of self and multigenerational transmission. An emotional system, as it relates to family therapy, refers to any group of people who have developed emotional interdependencies to the point where the resulting system through which the parts are connected has evolved its own principles of organization. It includes members' thoughts, feelings, fantasies, associations, emotions, and past connections, together and individually. It includes their physical makeup, genetic heritage, and current metabolic states. It involves their sibling positions and their parents' sibling positions. It includes the emotional history of the system itself, the effect upon it of larger emotional and physical forces, and how it has dealt with transitions, including loss. In effect, it includes all the information that can be put on a family genogram (Friedman, 1991).

Multigenerational transmission is the means by which specific degrees of differentiation are transmitted over generations. It is a process in which emotional responses, both their nature and the degrees of their intensity, are passed down from generation to generation. This transmission of differentiation, or lack thereof, can be in the form of how to manage stressful life events (Bowen, 1978; Kerr & Bowen, 1988). Friedman (1991) noted that conduction of this emotional transmission occurs as a continuous natural process from (1) parents to children, but also (2) the replication from any consecutive stages of reproduction, as well as (3) the overall process itself.

The significance of this for family psychology and therapy is that it de-emphasizes symptoms in the process of change. Differentiation of self is the capacity of an individual to

revisit one's family of origin and understand and reconnect with parents, but also to understand the natural processes that formatted one's destiny. Self-differentiation is understanding that process—to know it and experience it, to be affected by it all over again, and then not be emotionally reactive to it.

The concept of the emotional triangle describes the way in which three people relate to each other and involve others in the emotional system between them. Bowen (1978) coined the phrase to describe a three-person system as "the building block of any relationship system". A two-person system is considered unstable and will involve a third person or issue to form a triangle. In this way, anxiety decreases among the two-person system. Bowenian therapy involves a process known as "de-triangling." This involves family members' realizing the parts that they play in the triangle and understanding the importance of using their emotional system to relate and to decrease the anxiety in the family. This is accomplished by remaining connected, while maintaining a calm stance.

The family projection process describes the patterns through which parents project their anxieties onto one or more of their children. This results in a primary emotional impairment of the child, or it can superimpose itself on some defect or on some chronic illness or disability (Bowen, 1978). The invested child tends to grow up with a lesser degree of separation between thinking and feeling. It exists in all gradations of intensity, from families in which impairment is minimal to those in which the child is seriously impaired for life. This process is universal and exists in all families to some extent.

Sibling position is another interlocking concept of Bowen Family Systems Theory that defines what characteristic postures individuals play in the process of the family. Bowen borrowed much of his ideas regarding sibling position profiles from the work of Toman (1961),

who depicted characteristics of people who occupy ten sibling positions from data collected from several hundred families. While these positions are not meant to precisely describe a particular person, they indicate trends and patterns of behavior that generally characterize persons occupying a given sibling position.

The term "emotional cutoff" is used by Bowen (1978) to refer to the extreme emotional distancing that an individual uses to avoid anxiety in a family. The distance can be in miles, with no contact between people; or it can be internal, with each person employing various methods to avoid contact with the other. The principle manifestation of the emotional cutoff is denial of the unresolved emotional attachment to the parents and other significant relatives. The person who achieves emotional distance with internal mechanisms has a better ability to stay on the scene in periods of emotional tension, but is more prone to personal dysfunctions. These may be in the form of physical illness, emotional dysfunction such as depression, and social dysfunction such as drinking and episodic irresponsibility in relation to others.

The eighth and last interlocking concept that Bowen first described in 1972 is societal regression (Bowen, 1978; Kerr & Bowen, 1988). The concept means that when a family is subjected to chronic, sustained anxiety, the family begins to lose contact with its intellectually determined principles, and to increasingly resort to more emotionally driven decisions to allay the anxiety of the moment. The results of this process are symptoms and, eventually, regression to a lower level of functioning. The societal concept is based on the postulate that the same process is occurring in society, and that we are in a trend toward increasing chronic societal anxiety. Society responds with an emotionally driven reaction to allay the anxiety of the moment. This results in symptoms of dysfunction, which further drives societal regression.

While each of the eight concepts of Bowen Family Systems Theory describes a different facet of the total system, differentiation of self most closely reflects the process of emotional functioning in relationships. According to the theory, individuals who have higher levels of differentiation of self have more control over their emotional systems. They are able to distinguish between their emotions and thoughts and to make decisions based on an integration of both sets of processes (Bowen, 1978; Kerr & Bowen, 1988).

This definition of differentiation of self was supported by Bohlander (1995), who examined this concept utilizing the framework of concept analysis by Walker and Avant (1988). They determined that measurement weaknesses in past research studies centered on the operationalization of the construct differentiation of self as a variable. While empirical evidence regarding family functioning has increased in recent years, issues remain regarding the validity and reliability of the measurement tools.

Bowen (1978) reported that there are two major variables in differentiation of self. One has to do with the level of integration of self in a person, and the other has to do with the level of anxiety. The level of differentiation of self constitutes an index of how reactive a person is to anxiety. As anxiety increases, so does the tendency for the individual to react emotionally and to perpetuate dysfunctional patterns of functioning. Kerr and Bowen (1988) also defined level of functioning utilizing the principles of differentiation of self and chronic anxiety. The lower a person's level of differentiation, the less one is able to adapt to stress. The higher the level of chronic anxiety in the relationship system, the greater the strain on an individual's adaptive capabilities. When adaptive capabilities are exhausted, the individual becomes less adaptive and dysfunction occurs.

Operational Definitions and Theoretical Constructs

A review of the literature suggests that factors related to the development of a valid instrument to measure the construct differentiation of self are multifaceted. Developing a concise and theoretically meaningful way of talking about family functioning represents the first step in developing a measurement tool of this complex construct (Sabatelli & Bartle, 1995). While many research studies were intended to examine the construct differentiation of self, each of them utilized an operational definition that fell short of reflecting the theoretical network that it supposedly measured (Miller, Anderson & Keala, 2004; Anderson & Sabatelli, 1990; Bohlander, 1995; Bray, 1995; Klever, 2009; Lawson, 2004; Licht & Chabot, 2006; Sabatelli & Bartle, 1995; Skowron, 2004; Skowron, Holmes & Sabatelli, 2003; Skowron & Friedlander, 1998). This lack of an adequate operational definition is referred to as construct underrepresentation in the Standards for Educational and Psychological Testing (1999). Underrepresentation refers to "the amount to which the test fails to capture important aspects of the construct".

Examples of the discrepancies between operational differences and theoretical constructs are examined in an article about comparing Bowens' differentiation of self, Mahlers' individuation, and Witkens' psychological differentiation (Bohlander, 1995). At times, the terms differentiation of self, individuation and self-differentiation are used interchangeably. This issue was addressed in an article entitled, "Children of Alcoholics: Individuation, Development, and Family Systems", by Crespi and Sabatelli (1997). Crespi and Sabatelli discussed individuation, and referred to Bowen's differentiation of self as an aspect of individuation. This use of constructs construed as similar without careful linkage of the underlying theoretical base results in operational flaws that undermine the quality of the information available to researchers.

Underrepresentation is also alluded to in an article examining families with multiple problems through a Bowenian lens (Hurst, Sawatzky & Pare, 1996). The authors noted that the authors of the Personal Authority in the Family System Scale Questionnaire (PAFS-Q) (Bray et al., 1984) expanded upon Bowen's work and introduced terms not used by Bowen. Friedman (1991) also referred to this theoretical blurring of the concept when terms such as individuation, autonomy, or independence are used interchangeably. This lack of distinction in use of terms is found in an article by Bartle (1993), who explored the degree of similarity of differentiation of self between partners in married and dating couples. The author used the two subscales of the PAFS-Q to measure individuation. In the article, she reported that self-differentiation and individuation are synonymous. The PAFS-Q offers empirical results relative to Bowen's differentiation of self construct, while using both a conceptual and operational definition that are not consistent with the differentiation of self construct. Detailed descriptions of the conceptual framework of the test indicates how this representation of the construct is to be distinguished from other constructs and how it should relate to other variables (American Educational Research Association, American Psychological Association & National Council on Measurement in Education, 1999). Miller et al. (2004) also noted that the PAFS-Q was developed to measure personal authority among adult children as they developed peer relationships with their parents and not the construct differentiation of self. Bohlander (1995) pointed out that it is difficult to accept results, especially in terms of their contribution to the knowledge base on differentiation of self, because of a lack of conceptual-operational fit.

Bowen Family Systems Theory

In the years since Bowen Family Systems Theory has been developed, it has played an increasingly important role in marriage and family therapy. Although originally developed as a

theory to guide marriage and family therapy techniques, it is presently used as a way in which to study the process and interaction of marriage and family systems in both clinical and nonclinical contexts. Despite the growing utilization of Bowen Family Systems Theory in educational and clinical settings, there remain gaps in the research literature that addresses factors related to basic research and the development of construct validity of differentiation of self (Miller et al., 2004).

Basic research on Bowen Family Systems Theory tests basic propositions within the theory to provide empirical evidence that supports the construct validity of important concepts. Rather than determining its construct validity in clinical practice, basic research is designed to evaluate the soundness of the theory by looking at how major assumptions of the theory stand up to empirical testing. When major assumptions of the theory stand up to the empirical evidence, there is more confidence in the soundness of the theory (American Educational Research Association, American Psychological Association & National Council on Measurement in Education, 1999).

Level of Functioning

Bowen Family Systems Theory constitutes a conceptual perspective about the emotional process that governs relationships (Kerr & Bowen, 1988). It is imperative that an operational definition used to assess the concept differentiation of self include indicators that reflect the level of functioning of individuals in emotional relationships. An individual's level of differentiation of self is determined by how the person functions within emotional relationships (Bowen, 1978; Kerr and Bowen, 1988). Establishing construct validity of differentiation of self requires an accurate reflection of the construct in the operational definition.

Launching

Another indicator to assess an individual's level of differentiation of self is the age at which adult children leave a parental home to begin lives on their own (Kerr & Bowen, 1988). Children grow up to achieve varying levels of differentiation of self from their families-of-origin (Bowen, 1978). According to Bowen Family Systems Theory, adult children who continue to live at home with parents may be more likely to be emotional appendages of their parents. They may also be unable to differentiate themselves from their families and to develop into clearly defined individuals. Evidence of construct validity of differentiation of self would be supported if age is a variable that is included in the operational definition.

Various cultures and ethnic backgrounds have different "average ages" at which children are launched from their families. Based on culture and ethnic background, average ages may also vary according to gender. McGoldrick and Gerson (1985) reported that families must be assessed within their cultural contexts to determine what pathway each family considers normal for launching of young adults. Independence from family is highlighted in the literature on adult development as the essential developmental task of the entry phase to adulthood (Aylmer, 1988).

Duration

A valid measurement tool of differentiation of self must also assess the level of emotional functioning over a period of time to determine how an individual functions during anxiety-free periods, as well as periods of sustained or chronic stress. The real test of the stability of an individual's level of differentiation comes when that person is subjected to chronic severe anxiety. There is no direct connection between the absence or presence of symptoms and level of differentiation (Bowen, 1978). In an anxiety-free period, even poorly differentiated individuals can appear symptom-free. Assessing the level of differentiation and anxiety over time helps to evaluate an individual's functioning level.

Family Relations

For an assessment tool to adequately measure construct validity and the level of differentiation of self of an individual, it must also elicit information about relationships between spouses, siblings, parents, children and their relationships with each other. This is because basic differentiation is largely determined by multigenerational emotional processes. Kerr and Bowen (1988) reported that the varying degrees of emotional separation that individuals could achieve from their families of origin account for their operating at different levels of differentiation in committed emotional relationships. The degree of unresolved emotional attachment to parents is equal to the degree of undifferentiation that must be managed in the person's own nuclear family and in subsequent generations. For example, the more intense an emotional cutoff with a parent, the more likely the individual will have an exaggerated view of his or her parental/family problems in one's own marriage. Likewise, the more intense the emotional cutoff between family members, the more likely their children will develop an even more intense cutoff with their parents.

Basic Research and Bowen Family Systems Theory

Unit of Analysis

The Personal Authority in the Family System-Questionnaire (PAFS-Q) (Bray et al., 1984) was developed to assess relationships in the three-generational family system as perceived by the individual. The PAFS-Q operationalizes aspects of current multigenerational and intergenerational family systems theory. By assessing each important relationship in the family system, a measure is more likely to capture nuances about the level of emotional family functioning.

This issue was explored by Bray (1995), who discussed the methodological issues in assessing families, and noted that self-reports from an individual regarding the whole family represents the perceptions of one family member, rather than constituting a true assessment of the whole family system. Because they are restricted to one individual's perceptions, they are not a true evaluation of the family. These variations in perceptions may be likened to what Laing (1967) called, "self-identity" (my view of myself) and "meta-identity" (my view of your view of me). One's experience of another self entails a particular interpretation of the behaviors he or she is perceiving. These are not accurate interpretations of family members, but rather one person's perceptions of family members.

In a later study, Bartle-Haring and Gavazzi (1996) used the Differentiation in the Family System (DIFS) to evaluate family system functioning, using multiple family perspectives. College students and their parents were asked to complete the DIFS, as well as a parental separation anxiety scale. Results demonstrated that there was a significant amount of error variance noted in the analysis procedure. These results suggest that the DIFS does not measure family differentiation without error. Results also suggest that the error was not random.

Statistical Analysis

The construct validity of differentiation of self can also be determined by statistical analyses used to examine the data. Factor analysis is a statistical tool that can also be used to support construct validity. It is a means of creating a single composite variable out of many variables (Dixon, 1986). It is especially useful when the theoretical structure of the concept has been well-developed, as in Bowen Family Systems Theory. It is a procedure that gives the

researcher information about the extent to which a set of items measure the same underlying construct or dimensions of a construct (Burns & Grove, 1993).

Factor analysis is also used in instrument development. Attributes of a theory are defined and items are developed for each of them. These items are developed into separate dimensions of the concept. Using factor analysis, items designed to measure the same dimension should load on the same factor. Other factors designed to measure a different dimension should load on another factor (Brink & Wood, 1989).

Development and initial validation of the Differentiation of Self Inventory (DSI) by Skowron and Friedlander (1998) included factor analysis utilizing a principal-components approach. This was conducted to allow for the multidimensionality of Bowen Family Systems Theory, and to determine final selection of items. Four factors accounted for 26.2% of the variance. A second study was conducted to revise the theoretical focus and item content of the original DSI, due to the considerable amount of variance unaccounted for in the previous factor analysis. This resulted in the 43-item measure with four subscales. A third study was also conducted using confirmatory factor analysis to evaluate the DSI's factor structure. Results indicated support for the DSI subscales, Emotional Reactivity, I Position, Emotional Cutoff, and Fusion with others as representing the single, multidimensional construct, differentiation of self.

Evidence of convergent and divergent validity also supports the contribution to construct validity of a measurement tool. Convergent validity refers to "the support received when two tests that measure the same construct are administered and are correlated positively". Divergent or discriminant validity refers to "the ability of a measure to differentiate the construct from other tools that may be similar in format, but measure different constructs" (Burns, & Grove, 1993). Researchers can then establish construct validity by presenting the correlations between a

measure of a construct and several other measures that should theoretically be correlated with it (convergent validity) or contrast with it (discriminant validity) (Westen & Rosenthal, 2003).

Determining convergent-discriminant validity is an important part of establishing the contribution to construct validity of any tool constructed to assess family functioning. Cronbach and Meehl (1955) argued that investigating construct validity involves at least three steps: (a) articulating a set of theoretical concepts and their interrelations, (b) developing ways to measure the hypothetical constructs proposed by the theory, and (c) empirically testing the hypothesized relations among constructs and their observable manifestations. Other early researchers, such as Campbell (1960) and Campbell and Fiske (1959), discussed the importance of convergent and discriminant validity as essential to developing a test that measures a construct accurately. Measuring alternate methods of assessing differentiation of self provides greater clarity and fosters further understanding of key concepts in family systems theory.

In a study to determine whether the DSI and PAFS similarly measured the construct differentiation of self, Skowron, Holmes and Sabatelli (2003) sought to establish if the two measures assessed the same dimensions of differentiation of self, and to test the relationships between the underlying dimensions of differentiation of self. Specifically, the authors' purpose was to provide construct validity of the two measures as a means of evaluating family patterns and whether they are associated with individual well-being.

Results indicated that two distinct dimensions of differentiation of self emerged: (a) self-regulation, which is characterized by an ability to take an I-position and an ability to modulate emotional reactivity, and (b) an ability to relate freely to parents as peers and to maintain comfort with togetherness and independence in close relationships. Results also

indicated that higher levels of differentiation of self were associated with reports of greater well-being in men and women.

Clinical and Nonclinical Populations

Support for the contribution to construct validity of a psychometric measurement tool also includes administering the test to samples of clinical as well as nonclinical populations. Clinical populations would be predicted to have lower levels of differentiation and higher levels of anxiety, and a nonclinical population would presumably have higher levels of differentiation and lower levels of anxiety. Clinical populations would also be predicted to have higher levels of triangulation, marital conflict, psychiatric dysfunction, and life-stress events.

In a study to examine differentiation of self in a clinical and nonclinical sample, Elieson and Rubin (2001), as cited in Skowron & Friedlander (1998), administered the Differentiation of Self Inventory and the Beck Depression Inventory II to clinically depressed and nondepressed populations. Results indicated that depressed populations have lower levels of differentiation of self than do a traditional student population. A review of the literature reveals that there remains a paucity of construct validity measures using clinical and nonclinical populations that examine the construct validity of differentiation of self measures.

Chronic Anxiety

In order to develop a valid measurement tool that gauges family functioning, the test must provide data on how a family manifests and adapts to chronic anxiety. Spouses deal with anxiety in a multitude of ways. Emotional distance comprises the most universal process that individuals use to manage anxiety in their relationships. Other patterns of managing anxiety include marital conflict, dysfunction in a spouse, and dysfunction in a child. These patterns of

managing anxiety are present in all families to some degree (Kerr & Bowen, 1988). It is only when the adaptive capabilities of the family members are stressed into dysfunction that they become unhealthy. Family functioning is considered to be successful to the extent that the nuclear family is symptom-free in all spheres (Friedman, 1991). This would be where there is intimacy in the marital relationship, and where there is minimal family dysfunction, triangulation, anxiety, and spousal fusion/individuation and lower levels of life-stress events.

Key factors that are not included in the instruments that measure differentiation of self, though, are the indicators that examine important areas that Bowen discussed as they relate to manifestations of chronic anxiety in relationships. Manifestations of chronic anxiety in relationships are triangulation, spousal fusion, psychiatric dysfunction and higher levels of life-stress events. These are outcomes of adaptations to chronic anxiety that result in symptoms.

Significance of the Study

Construct validity of differentiation of self is critical to the integrity of any research study designed to measure family functioning from a Bowenian perspective. The literature on differentiation of self is clear that a key element in determining an individuals' level of functioning is the manner in which the person can differentiate between emotional and intellectual processes. Individuals have the capacity to make life decisions based on an integration of the two systems, so that they are better able to attain their life goals. Each of the instruments in this study that were designed to measure differentiation of self revolves around this concept in varying degrees.

It is the purpose of this study to examine the contributions to construct validity with instruments to assess the level of differentiation of self, using a clinical and nonclinical sample. It is also the purpose of this study to determine what additional gaps are present in the

differentiation-of-self measures and to elucidate how these gaps could be filled. The goal is to evaluate the degree to which evidence and theory support the interpretations of the test scores (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999). This degree of evidence may support and bolster the results of the test being utilized. Confidence in a theory is increased as more relevant evidence confirms it, but there is always a possibility that another investigation can render the current findings obsolete (Cronbach & Meehl, 1955).

Chapter II will include a review of the literature on construct validity, differentiation of self and chronic anxiety. A description of two measures designed to measure differentiation of self will be given with evidence of construct validity as having been established by the test developer. This will entail explaining the singular or multidimensional nature of the process, the overlap or distinctions among the instruments, Differentiation of Self Inventory (DSI) by Skowron and Friedlander, (1998), and the Personal Authority in the Family System Questionnaire (PAFS-Q) by Bray et al. (1984), that measure *differentiation of self* and the linkages of one's functioning in relationships to predicted correlates in the Trait version of the State-Trait Anxiety Inventory (STAI-T) (Spielberger, Gorsuch & Lushene, 1970). A symptom checklist (Symptom Checklist 90-Revised (SCL-90) (Derogatis, 1994) was administered to assess the participant's level of functioning as it pertains to adaptations to chronic anxiety as they relate to gaps in the previously listed differentiation of self measures. Lastly, the Social Readjustment Rating Scale (SRRS) (Holmes & Rahe, 1967) was administered to determine if stressful life events are predictive in determining level of differentiation.

Research Questions and Exploratory Questions

The following research and exploratory questions will be examined in Chapter II:

Research Questions

1. Is there a relationship between measures of differentiation of self and anxiety, triangulation, spousal fusion, intimacy, psychiatric dysfunction and life-stress events?

2. Is there a difference between clinical and nonclinical samples and differentiation of self, anxiety, triangulation, spousal fusion, intimacy, psychiatric dysfunction and life-stress events?

Exploratory Question

1. Is there a relationship between measures of differentiation of self?

CHAPTER II

LITERATURE REVIEW

Theoretical Foundations

This chapter provides a review of the literature covering differentiation of self, triangulation, a description of the Differentiation of Self Inventory (DSI) (Skowron & Friedlander, 1998), the Personal Authority in the Family System Questionnaire (PAFS-Q) (Bray et al., 1984), the Trait Anxiety Scale of the State-Trait Anxiety Inventory (STAI-T)

(Spielberger et al., 1970), the Symptom Checklist-90-R (SCL-90-R) (Derogatis, 1994), and the Social Readjustment Rating Scale (SRRS) (Holmes & Rahe, 1967).

Differentiation of Self

Differentiation of self serves as one of eight interlocking concepts of Bowen Family Systems Theory that, taken together, form a systems theory for a living system (Kerr and Bowen, 1988). The eight interlocking concepts include differentiation of self, multigenerational transmission process, emotional triangle, nuclear family emotional process, family projection process, sibling position, emotional cutoff, and societal regression. Like the interlocking concepts, Bowen saw individuals as parts of interlocking relationships within a family. He believed that the interlocking relationships within a family system are governed by the same counterbalancing life forces that operate within all natural systems. These include the counterbalancing life forces of togetherness and individuality.

The interdependence of togetherness and individuality exists in all relationships that have an emotional component (Kerr & Bowen, 1988). Individuals in emotional relationships have a need for connectedness, as well as a need for separateness. Individuality is the force that drives an individual to be a separate and independent entity with a defined sense of self. Togetherness constitutes the force that drives an individual to be dependent and to follow the directives of another. A balance between these two biologically rooted life forces occurs when two individuals invest an equal amount of life energy into their relationship with each other and retain life energy for themselves as well. The balance between these life forces remains in a state of dynamic equilibrium that varies over time. This occurs as each individual continually adjusts the amount of energy that one invests in a relationship or in oneself.

The Feminine Perspective of Bowen Family Systems Theory

Bowen's concept that individuals with lower levels of differentiation of self are less able to define themselves as separate and distinct selves while remaining connected in emotional relationships was challenged by Knudson-Martin (1994) in "The Female Voice: Applications to Bowen's Family Systems Theory". She asserted that Bowen Family Systems Theory is a valuable framework with which to guide therapeutic interventions, but leaves out the female experience in which women learn to define themselves through connections with others.

Knudson-Martin (1994) discussed Bowen's theory as defining poorly differentiated individuals as "investing excessive amounts of life energy in togetherness, causing emotional fusion". This is based on Bowen's idea that there are two competing life forces, individuality and togetherness. As the need for emotional closeness increases, emotional reactivity increases and the individuals' ability to utilize their intellectual system decreases. This, in turn, causes thinking responses to be overwhelmed by feelings and emotions generated in the relationship.

Knudson-Martin (1994) noted that Bowen theory describes being sensitive to emotional disharmony and the opinion of others—as connected selves tend to be—as characteristic of low differentiation. When anxiety in the emotional relationship drives togetherness forces and thus reduces the anxiety, the forces of individuality and togetherness appear to be unidirectional. This can result in a masculine model of relationships that obscures the value of connections. The claim that Bowen theory is prejudicial toward the female gender is also contended by Innes (1996), who reported that overlooking gender differences results in judging women as somehow lacking or inferior when comparing them to standards derived from men's experiences.

Knudson-Martin (1994) did note that Bowen Family Systems Theory does integrate the female experience, because it places individual development in the context of a biologically

rooted interdependence and conceptualizes the family as an emotional unit or field influencing the functioning of each person.

Bowen's Differentiation of Self Scale

Kerr stated that, "Bowen family systems theory is based on the assumption that a human being is a product of evolution and that human behavior is significantly regulated by the same natural processes that regulate the behaviors of all living things" (Kerr & Bowen, 1988, p. 3). It defines a concept that is universal and can be used as a way of categorizing all persons on a single continuum. Bowen (1978) devised a differentiation of self scale in an effort to theoretically represent all levels of functioning on a continuum from 0 to 100. The points on the scale represent an individual's level of differentiation of self and are meant to show how people are different from each other in terms of emotional-intellectual functioning. Bowen divided the scale into quartile ranges and described profiles of people in the 0-25, the 25-50, the 50-75, and 75-100. The characteristic that best describes the differences between people at various points on the continuum is the degree to which individuals have the ability to differentiate between their emotional processes and their intellectual processes. Associated with this is the capacity to make decisions based on emotional and intellectual functioning (Bowen, 1978; Kerr and Bowen, 1988).

The lower end of the continuum comprises poorly differentiated individuals whose functioning is dominated by a fusion between their emotional and intellectual systems. These are individuals who operate from their emotional systems and are more likely to follow the course of instinctual behavior. An individual is operating from an emotional system when allowing one to be controlled by emotions. This occurs when a person is emotionally involved in an anxious situation and thinking is flooded by intense feelings and emotions. Emotional

forces govern automatic and reflexive behavior and are what humans have in common with lower forms of life (Friedman, 1991).

The other end of the continuum encompasses highly differentiated individuals whose functioning is governed by integration between their intellectual and emotional systems. These individuals utilize their intellectual systems and are more apt to make more logical, more thoughtful decisions based on events as they occur. These individuals are able to make choices between functioning from their emotional systems, and functioning from their intellectual systems and are then better able to adapt to stressful events. One's present position on the scale at a given point in time is arbitrary, however, since any individual, if stressed enough, will exhibit symptoms of emotional, physical or social dysfunction (Kerr, 1981).

Friedman (1991) created a different perspective of the differentiation of self scale utilizing a vertical and horizontal axis. He labeled the horizontal axis "condition" and the vertical axis "response." The condition is the intensity of the family symptom, crisis, or the anxiety associated with the stressor. The response is the degree of differentiation in the person or a family. This is inversely proportional to the amount of chronic anxiety transmitted from previous generations. Theoretically, if one were to plot families or individuals along both axes, he or she would find an equal distribution in all four quadrants.

Bowen hypothesized that an individual's ability to distinguish between the intellectual and emotional systems is strongly influenced by the level of emotional separation that has been attained from the family of origin (Kerr & Bowen, 1988). This is related to the togetherness and individuality forces that govern a family's relationship system. High emotional intensity in a nuclear family does not allow a developing child to grow, think, feel and act for him or herself. A child functions in reaction to the emotions that exist in the family. This is in contrast to a child

in a less emotionally reactive, more differentiated family, whereby the child learns from parents to operate from the intellectual system. This relates to the amount of energy that a family is able to invest in life goals versus energy one invests in relating to family members. As an adult, similar patterns of functioning are replicated in relationships with others.

Basic Self

An important aspect of the level of differentiation of self includes an individual's level of solid, or basic, self. An individual who is poorly differentiated and who operates primarily out of the emotional system and in reaction to others has a lower level of basic self. Kerr and Bowen (1988) described basic self as "functioning that is not dependent on or negotiable under pressure of the relationship system". The higher the basic level of self, the more a person can maintain high functioning and not focus on others, even in a highly stressful situation. The individual can tolerate stress and not be easily infected with anxiety. The basic self is established by adolescence and remains relatively fixed in that it can be changed only from within-self based on new knowledge and experience (Kerr and Bowen, 1988).

The Pseudoself

The second important aspect of self differentiation that Bowen (1978) described is an individual's level of functional level, or pseudoself. An individual's functional level, or pseudoself, includes an appended or "pretend" self. In contrast to basic, or solid, self, which is not negotiable within the relationship system, the functional self is a fluid and shifting level of self within the relationship system. It is created under emotional pressure of the relationship system, so it can be modified as the emotional pressure changes. All groups, including families, organizations or society, exert emotional pressure upon members to conform to their ideas and principles. An individual with a low functional self will conform to the same beliefs, values,

principles or goals as the group, so as to maintain emotional harmony. This process operates reciprocally by providing an emotional anchor to the group member. It becomes not a question as to whether an individual conforms or not, but rather that some individuals do it more than others (Kerr, 1984).

Bowen (1978) suggested that it is the functional level, or pseudoself, that becomes fused in emotional relationships. This occurs more often and more intensely when an individual has a lower level of differentiation and when there is a high level of anxiety in a relationship system (Bowen, 1978; Kerr, 1984; Bowen & Kerr, 1988). When anxiety in a relationship system is high, individuals tend to be more emotionally reactive and focus more on the relationship. They invest their energies into seeking love and approval and keeping harmony in the relationship, so that there is no energy left to pursue life-directed goals.

In a marriage, two pseudoselves can become fused into a "we-ness." This occurs when each spouse gives up, borrows, or exchanges self in the relationship system. One spouse becomes more de-selfed while the other gains self. One spouse becomes the more dominant one in the marriage, while the other becomes the more adaptive spouse. There are myriad roles that can be played in various complementary and reciprocal relationships. These include over-adequate and inadequate, dominant and submissive, and decisive and indecisive.

Patterns of Functioning

Bowen (1978) described three patterns of functioning in which individuals in relationships manifest symptoms of anxiety: psychiatric dysfunction in a spouse, marital conflict, and dysfunction in one or more children. In a nuclear family, any or all three patterns of emotional functioning can be present at any time. The vulnerability of the relationship system to symptom development is determined by the level of differentiation and the intensity and duration

of the anxiety (Bowen, 1978; Kerr & Bowen, 1988). Where it occurs is based on the pattern of emotional functioning in the family system. The emotional patterns of both parents as they grew up in their families of origin largely determine the particular category of dysfunction that they replicate in their nuclear families.

Illness in a Spouse

One pattern of emotional functioning in nuclear families that results in dysfunction is illness in a spouse. What begins as a complementary and reciprocal relationship changes when anxiety becomes chronic or intensifies. In a marriage with poorly differentiated individuals, it is typically the more adaptive spouse who becomes symptomatic (Bowen, 1978; Kerr & Bowen, 1988). This occurs when the adaptive spouse adjusts thoughts, behaviors and feelings to preserve harmony in the relationship. The adaptive spouse may be underfunctioning and becomes so de-selfed as to generate and absorb more anxiety than one can manage. The overfunctioning spouse can also become symptomatic because of an inability to manage an exaggerated sense of responsibility of caring for the underfunctioning spouse. Symptom development occurs when anxiety becomes chronic or intensifies. The adaptive spouse is unable to absorb any added anxiety, and symptoms develop. Symptoms can be manifested as physical illness, emotional illness, or a social dysfunction such as drinking or other irresponsible behaviors.

Marital Discord

Another dysfunctional pattern that occurs in a nuclear family consists of marital conflict (Bowen, 1978; Kerr, 1984; Kerr &Bowen, 1988). Conflict in a marriage arises when the anxiety between undifferentiated spouses is externalized into the marital relationship. Each partner in the marriage reacts to the other with anger and blaming. A tremendous amount of life energy is

invested in thinking or acting out the anger each spouse feels toward the other. The periods of anger are intermixed with equally intense periods of passion and closeness.

Kerr and Bowen (1988) suggested that the difference in a conflictual marriage that produces symptoms in a spouse and one that does not is related to who gets blamed for the problems in the relationship. A marriage in which both of the spouses blame the other is less apt to have a spouse develop symptoms. When each spouse agrees that it is one spouse who is to blame and needs to change, that spouse may develop symptoms. These include physical illness, emotional illness, or social dysfunction such as gambling, drinking or other socially irresponsible behavior.

Impairment in Children

Another pattern of functioning in relationships that results in dysfunction is impairment in a child, or children. In a nuclear family, the development of physical, emotional or social symptoms is influenced by the same two variables that influence symptoms either in the mother or the child. If the chronic anxiety intensifies, the ability of the child to absorb it will be exceeded, and the child will develop symptoms.

Kerr and Bowen (1988) emphasized the similarities between the three categories of dysfunction that can be manifested when emotional pressure develops in a relationship system. Dysfunction in a spouse, marital conflict, and dysfunction in one or more children occurs when individuals react to development in adults (Kerr & Bowen, 1988). The first variable is the level of differentiation of the family. The level of differentiation of the parent influences the emotional focus projected onto the child. The lower the level of differentiation of the child, the more vulnerable the child is to the development of symptoms. The level of differentiation of the child moderates how well the child tolerates and adapts to stress.

The second variable that influences symptom development in a child is the level of chronic anxiety in the family. The projection of anxiety onto the child has its origins in the maternal instinct (Bowen, 1978). The process begins with the mother's experiencing anxiety around the child. The child perceives and responds to the anxiety, and the mother becomes calm. The father may be sympathetic to the mother's anxiety and supports her emotional involvement in the child. Once the process is started, it can be motivated by emotional pressure with patterns of adaptation that transmit anxiety to the individuals or relationships. This phenomenon occurs when there is a low level of differentiation in the individual and the family and/or the level of chronic anxiety is high.

Triangles

Another one of the eight interlocking concepts of Bowen Family Systems Theory is the concept of an emotional triangle. A triangle is made up of a three-person system, and is considered the smallest, stable molecule in an emotional system (Bowen, 1978; Kerr & Bowen, 1988). Triangles occur when the anxiety increases in a two-person system and creates a three-person system (or two individuals and an issue). A two-person system can remain stable as long as anxiety is low. When anxiety is high, a third person (or issue) is drawn into the system, thereby decreasing the tension. Three interconnected relationships can contain more anxiety than three separate relationships (Kerr & Bowen, 1988). The fluidity of the pathways prevents any one relationship from becoming overheated. This maintains a dynamic equilibrium by lowering anxiety, which is the major influence in developing triangles in the first place.

Bowen (1978) suggested that the lower the level of differentiation, the more intense the pattern of triangle functioning; and the more intense the relationship, the more intense the patterns. The very same patterns are more intense in low-differentiated individuals and less

intense at higher levels of differentiation and more peripheral to the system. A universal rule of triangles is that, to the extent that one of the three persons attempts to be responsible for, or attempts to, change one of the other three persons is the extent to which that individual will experience the stress for that relationship (Friedman, 1991).

Measurement Tools

Bowen Family Systems Theory is based on the attempt to determine the facts of functioning in emotional relationships (Kerr & Bowen, 1988). Several researchers have attempted to design a tool to measure family functioning utilizing the construct differentiation of self. Valid and reliable psychometrically designed measures that reflect theoretically meaningful dimensions of family functioning are needed (Gavazzi et al., 1998). Critical to efforts to assess this complex construct is the link between assessment and theory (Sabatelli and Bartle, 1995). While empirical evidence has increased for measurement of this construct, there remain issues regarding the validity and reliability of these measurement tools (Bohlander, 1995).

The following measurement tools are intended to measure family functioning utilizing the construct differentiation of self from Bowen Family Systems Theory. Each of them has been designed and tested for contributions to construct validity. A critical aspect of assessing family functioning is the decision as to what aspect of the family needs to be evaluated and how one measures it (Bray, 1995). When measures are not psychometrically sound, the likelihood of a biased and skewed perspective of the characteristics of a family is increased (Sabatelli and Bartle, 1999). This indicates a methodological and ethical responsibility for the researcher to design an assessment tool in a theoretically grounded perspective. This includes conducting basic research that confirms basic propositions of Bowen Family Systems Theory, but also includes other methods of research that adds to the construct validity of the measure being

studied by including such variables or constructs that address convergent and discriminant validity of the measure.

The Differentiation of Self Inventory (STAI)

The Differentiation of Self Inventory (STAI) (Skowron & Friedlander, 1998) is a 43-item, self-report instrument that was developed to examine propositions of Bowen's differentiation of self construct. Skowron and Friedlander (1998) reported that, on an intrapsychic level, differentiation of self refers to "the ability to distinguish between the emotional system and the intellectual system and to decide which of the two takes precedence in a given situation". Greater differentiation would allow an individual to maintain a defined sense of self in an emotional relationship during times of stress. Differentiation of self would also allow an individual the ability to stay calm and resist being overwhelmed by the anxiety of others. On an interpersonal level, differentiation of self refers to "the ability to experience a balance between autonomy and intimacy in emotional relationships". More differentiated individuals are able to establish greater autonomy in a marriage without experiencing debilitating fears of abandonment. It also refers to the ability of an individual to achieve emotional intimacy in that same relationship without fear of feeling smothered (Tuason & Friedlander, 2000; Skowron, 2004; Skowron & Friedlander, 1998). The following four subscales underlie the DSI (Skowron & Friedlander, 1998), and are defined in the following way:

1. Emotional Reactivity: Poorly differentiated individuals direct their energy toward experience, expression and intensity of their feelings. Conversely, highly differentiated individuals experience strong emotions, but are not consumed by them. They are able to consider alternative ways of thinking or being.

2. "I Position": More differentiated individuals are capable of taking an "I Position" in relationships and maintaining personal convictions when pressured by others to do otherwise. They are capable of being more self-directed and rely on their own thoughts and feelings rather than conforming to others' expectations or beliefs.

3. Emotional Cutoff: The emotionally cut off person finds intimacy and emotionality profoundly threatening. When internal experiences or interpersonal interactions are too intense, poorly differentiated individuals isolate themselves from others as well as from their emotions. Differentiated individuals do not feel this need to cut themselves off emotionally. They are not afraid that they will lose their identity, having resolved emotional attachments from their family of origin.

4. Fusion with Others: Poorly differentiated individuals are so overly involved or fused with individuals that they have an emotional relationship with. The fused individual tends to experience separation as overwhelming, and also bases his or her self-esteem largely on the approval of others and conforming to those around them.

In the article, "The Role of Differentiation of Self in Marital Adjustment," Skowron (2004) utilized the DSI, which she developed in performing an initial validation in 1998, to examine how individuals seek out partners who are equal in level of differentiation of self. The study utilized basic research as a means of testing the underlying propositions of Bowen Family Systems Theory that individuals select spouses who have the same levels of differentiation of self. The purposes of the study were threefold. It was hypothesized that individuals would marry partners with similar levels of differentiation of self. Secondly, partner differentiation-of-self scores were examined to test for the presence of greater complementarity among spouses in terms of the ways in which specific problems with differentiation were expressed. It was

hypothesized that greater complementarity along specific dimensions of couple differentiation would predict greater marital discord. Thirdly, theoretical relationships between couple differentiation of self and husband and wife marital adjustment were tested. Greater husband and wife combined differentiation-of-self scores were expected to predict greater marital adjustment reported by each spouse.

The results confirmed that couples that were less reactive, cut off, or fused with others, and better able to take I-positions in relationships, taken together, experienced the greatest levels of marital satisfaction, whereas those with less differentiated marriages indicated greater marital distress. Couple differentiation-of-self scores accounted for two-thirds of the variability in husband marital adjustment scores and about one-half of the variability in wife marital adjustment scores. These results lend support to the Bowen Family Systems idea that a couple's ability to be intimately connected with one another and still maintain their individuality is an important component of a good marriage.

It was noted that results showed that emotional cutoff uniquely predicted marital discord. When partners in a marriage, especially the male partner, remain emotionally present and available to each other, both husband and wife are more likely to experience the marriage as satisfying. Long term, emotional withdrawal on the part of the husbands, as defined in behavioral terms, has been shown to lead to less satisfying marriages.

Other results indicated that a greater couple complementarily, specifically, greater husband emotional cutoff and wife emotional reactivity in tandem, were more likely among those reporting greater marital discord. Results also indicated no support for Bowen's proposition that people marry individuals at similar levels of differentiation of self.

In a similar study, entitled "Do Parents' Differentiation Levels Predict Those of Their Adult Children? And Other Tests of Bowen Theory in a Philippine Sample", conducted by Tuason and Friedlander (2000), the researchers conducted basic research to evaluate several similar propositions of Bowen Family Systems Theory utilizing the DSI. Hypotheses examined were (a) differentiation of self is associated with less psychological distress, (b) the differentiation levels and psychological distress of parents predict those of their adult children, and (c) spouses report similar levels of differentiation of self.

In this study, the authors attempted to replicate Skowron and Friedlanders' 1998 findings by utilizing the same measurement tools but replacing the Hopkins Symptom checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) with its newer version, the Symptom Checklist 90-Revised (Derogatis,1994), which measures psychological distress. The Trait version of the State Trait Anxiety Inventory (STAI-T) (Spielberger, Gorsuch, and Lushene, 1970) was also utilized. Participants were an available sample of Filipinos who worked as faculty, staff or graduate students at a private Philippine university.

Results of the study showed a significant inverse relationship between differentiation-of-self levels and psychological distress. As hypothesized, spouses' levels of differentiation covaried significantly. These results are similar to the results found earlier during the development and initial validation of the DSI (Skowron & Friedlander 1998). In the latter study, differentiation of self predicted marital satisfaction. This suggests that the differentiation-of-self construct is as applicable to Filipinos as it is to North Americans. Other findings support the importance of differentiation in the Philippine culture. These results provided support for the convergent-discriminant validity of the DSI and established further construct validity for this measurement tool.

The hypothesis that transmission of family emotional processes would result in similar levels of differentiation and psychopathology across generations was not found. The authors proposed that factors outside the family, such as peer relationships, employment or societal influences can contribute to psychological well-being.

Personal Authority in the Family System Questionnaire (PAFS-Q)

The Personal Authority in the Family System Questionnaire (PAFS-Q) by Bray et al., (1984) is a 144 item, self-report measurement tool that was designed to assess individuals' perceptions of important current relationships with members of family-of-origin, nuclear family or dyadic relationships. It was developed to operationalize patterns of behavior characteristics of an integrated and differentiated self for use in clinical practice and research.

The achievement of personal authority in the family system is believed by the authors to represent a life-cycle stage for both the individual adult as well as a systemic, biopsychosocial and developmental task for families. It is defined as a pattern of abilities that allows an individual to: (1) direct one's opinions and thoughts; (2) express, or not express, those thoughts and opinions regardless of pressures; (3) respect one's personal judgment and take action on them; (4) take responsibility for one's experiences in life; (5) initiate and receive intimacy at will while maintaining a clear sense of self; and (6) experience and relate to all people, including parents as peers in the experience of being human.

The PAFS-Q was designed to assess the nuclear family and the family of origin as perceived by a participant. The study participants described current relationships with relevant family members in both the family of origin and nuclear family or dyadic relationship. Three different versions of the PAFS-Q were created. Version A is for adults with children, Version B is for adults without children, and Version C is for older adolescents and young adults.

The developmental stage of personal authority in the family system contains concepts as well as behaviors. They are represented as a set of interpersonal skills, interactional patterns, and as a way of relating that can be observed in family interactions and significant relationships with others. These include individuation, fusion, triangulation, intimacy, isolation, personal authority, and intergenerational intimidation.

The achievement of PAFS is viewed simultaneously as an individual and as a systemic, biopsychosocial, developmental task for adults and their families. This generally occurs between the fourth and early-fifth decades in the life of an adult; that is, between the ages of 30 and 45 years of age (Bray et al., 1984).

The PAFS-Q has been utilized in numerous research studies to examine the construct differentiation of self as it relates to various factors of family processes. In the study entitled, "Do People Who Marry Really Have the Same Level of Differentiation of Self?, Day, St. Clair and Marshall (1997) conducted basic research to evaluate the underlying proposition regarding the universality of Bowen' (1978) assertion that people select spouses who have identical basic levels of differentiation of self.

This was accomplished by combining Monte Carlo sampling techniques and the pseudocouple method of assessing couple similarity. The various measures of similarity associated with this methodology consistently indicated that members of the actual couples were more similar than the members of randomly formed couples on only the Spousal Intimacy Scale of the PAFS-Q. For the other six PAFS-Q scales examined in this study, the similarity measures were either low or near zero. These results conflict with Bowen's assertion that people select marriage partners at the same level of differentiation of self. The authors asserted that the most challenging results of the study for Bowenian theory is that none of the PAFS-Q variables

involving intergenerational processes showed evidence of more than a low degree of spouse similarity.

In another study that utilized the PAFS-Q to conduct basic research to examine Bowen's hypothesis that individuals marry spouses at the same level of self-differentiation as themselves, Bartle (1993) used three procedures to analyze the data. Zero-order correlations demonstrated significant results that, as one spouse's level of differentiation increased with regard to one parent, self-differentiation toward the other parent also increased. Correlations between partners' differentiation of self with regard to each parent were not significant, though. In a series of paired t-tests between the husbands' and wives' means, no two sets of means were significantly different. Analysis of the degree of similarity procedures suggested that married couples' scores on differentiation of self are no more similar or different than they would be in comparison to anyone else in the sample. Bartle (1993) suggested that, because these couples had been married for several years, their level of differentiation may have changed since they selected their mate, and that they may have grown in different directions over the years.

In another study, the PAFS-Q was utilized to examine family-of-origin influences on marital attitudes and readiness for marriage in late adolescents (Larson, Benson, Wilson, & Medora, 1998). Family-of-origin dynamics were based on Bowen Family Systems Theory. It was hypothesized that the constructs, fusion, triangulation and control, would have a negative effect on late adolescents' attitudes and feeling about their own future marriage and perceptions of readiness for an intimate and important relationship like marriage.

The findings of the study indicated that individuals who perceive their families of origin as less healthy were more likely to have negative perceptions of marriage. Specifically, those individuals who reported triangulation or fusion in their family of origin were more likely to

report negative attitudes about marriage, and negative feelings about marriage, compared to those families without these dysfunctional family processes.

In terms of perceived readiness for marriage, there was no support for the family-of-origin hypothesis related to readiness for marriage. Triangulation, fusion, and control had no relationship to perceived readiness for marriage or waiting time for marriage. In a study by Larson and Wilson (1998), the PAFS-Q was utilized to examine family-of-origin influences based on Bowen Family Systems Theory to explain career decision-making problems in young adults. It was hypothesized that intimidation, fusion, and triangulation would be directly related to anxiety, and that anxiety would be directly related to career decision-making problems in young adults. Anxiety was assessed using the trait version of the State-Trait Anxiety Inventory (STAI) by Spielberger et al. (1970). The findings supported Bowen's theory that an individuals' anxiety mediates the influence of fusion and intimidation in the family of origin on career decision problems in young adult offspring. The findings also established convergent-discriminant validity of the PAFS, and provided further support of the construct validity for this measurement tool.

This finding suggests that the dynamics of fused families, such as emotional dependence, lack of autonomy, and use of double binds, creates anxiety in the child. This will sharply limit independent thinking and result in an emotional reaction in the child that has a negative influence on the task of career decision-making.

In "An Empirical Investigation of the Construct of Personal Authority in Late Adolescent Women and Their Level of College Adjustment," Protinsky and Gilkey (1996) explored the theoretical concepts of intergenerational family influences on the adjustment of late adolescents in the college setting. Subscales of the PAFS-Q used included triangulation, intimidation,

intimacy, individuation, and personal authority. These five subscales were combined to yield one overall personal authority score, as well as a measure in their own right. The study also measured self-esteem, grade point average, college adjustment and a health checklist to assess reported health problems.

Results supported the hypothesized relationships between student perception of personal authority and specific features of college adjustment. Regression analyses indicated that a significant proportion of the variance in self-esteem scores could be explained by the variance in the scores on the personal authority subscale, ($r=.216$, $p<.034$). The variance in perceived health was also explained by the variance in the personal authority subscale, ($r=.210$, $p<.040$). As hypothesized, the variance in student college adjustment scores, self-esteem, perceived health, and grade point average could be explained by the variation in total personal authority scores.

In a study that utilized the PAFS-Q to assess fusion, triangulation and adjustment in families of college students with physical and cognitive disabilities, Smith, Ray, Wetchler and Mihail (1998) compared students with disabilities and students without disabilities. A significant difference in fusion and triangulation between students with disabilities and students with no disabilities was found. Higher degrees of fusion and triangulation with the students' family of origin were associated with lower college adjustment. Results also indicated that a relationship exists between a college students' level of differentiation and his or her overall college adjustment.

In a study utilizing the PAFS-Q to examine family-of-origin relationships and self-differentiation among university students with bulimic-type behavior, Levy and Hadley (1998) examined the differences between male students and female students with high or low bulimic-type behaviors and their perceptions of their self-differentiation and personal authority from their

family of origin. Subscales of the PAFS-Q that were utilized included the intergenerational fusion/individuation (INFUS) and personal authority (PERAUT). Results indicated that females without bulimic-type behavior are inclined to have individuation and personal authority with their families of origin. Females with bulimic-type behaviors tend to fuse and have a lack of personal authority from their families of origin. Furthermore, males without bulimic-type behavior revealed a similar effect as with the nonbulimic females. In males without bulimic-type behavior, fusion with families of origin was indicated, but not personal authority.

In another study that utilized the PAFS-Q to examine levels of differentiation of self in families with multiple problems, Hurst et al.'s (1996) hypothesis that parents in these families would demonstrate lower levels of differentiation than a normal group of adults drawn from the general population was supported. It was also predicted that these families with multiple problems would manifest distinct patterns of multigenerational problems. The study discovered a high frequency of multigenerational problems, consistent with Bowen theory.

In a study on individuation and psychosocial development, (Garbarino, Gaa, Swank, McPherson, and Gratch (1995) utilized the PAFS-Q (Version C) to examine gender differences in levels of individuation, and the relation of individuation and psychosocial development. Subscales utilized for the purpose of the study were Intergenerational Individuation/Fusion (ITGL) and the Peer Fusion/Individuation (PIDV). The Level of Differentiation of Self (LDSS) (Haber, 1990b) was also used. The LDSS is based on Bowen Family Systems Theory and the construct differentiation of self. It was developed to measure aspects of intellectual and emotional system functioning.

The authors hypothesized that there are differences in male and female differentiation patterns. They proposed that a males' gender identity is based on an emotional separateness, and

that a females' gender identity is based more on an emotional connectedness. The authors also hypothesized that (a) the central levels of differentiation of self for women will predict the most positive resolution of identity and intimacy, (b) the highest levels of differentiation will predict the most positive identity resolution for men, and (c) the central levels of differentiation for men will predict the most positive resolution of intimacy (Garbarino et al., 1995).

The authors found gender differences in individuation patterns, as they had predicted. The LDSS indicated higher individuation for women than for men. The ITGL subscale indicated higher individuation in men. The findings suggested that each instrument utilized in this study measure different aspects of differentiation. The LDSS appears to support a definition of individuation that focuses on autonomy within all interpersonal relationships, whereas the PAFS-Q subscales seem to measure differentiation focusing primarily on autonomy within intergenerational family and peer relationships.

Further support for differentiation's being influenced by gender is given by Innes (1996). He reported that, while differentiation of self is regarded as a universal principle that is governed by an instinctually rooted life force, evidence suggests that women's process of psychological development and social patterns are distinctively different from men.

The State-Trait Anxiety Inventory (STAI)

Anxiety was measured by scores on the Trait Anxiety subscale of the State-Trait Anxiety Inventory (STAI) (Spielberger et al, 1970). The State-Trait Anxiety subscale (STAI-T) is a measure of relatively stable individual differences in anxiety proneness. This is compared to the State Anxiety Subscale of the State Trait Anxiety Inventory (STAI-S) (Spielberger, 1983), in which participants are asked how they currently feel. Each scale consists of 20 items with a 4-

point Likert-type format asking respondents to rate how they feel right now (S-anxiety) or how they generally feel (T-anxiety).

The STAI has been used as a measure in several basic research studies to establish the construct validity of differentiation of self. Chronic anxiety is theoretically associated with Bowen's construct, differentiation of self, and is the result of poorly differentiated individuals' inabilities to cope with stress. Utilizing the STAI in studies to examine the level of differentiation of self provides results that add to the convergent or discriminant validity of a measurement tool.

Haber (1993) utilized the STAI when she examined differentiation of self in a study described earlier. The purpose of the research study was to provide evidence of the contributions of the Haber Level of Differentiation of Self Scale (LDSS) to construct validity. Results of the tests revealed statistically significant ($p < .0001$) negative correlations between LDSS scores and T-anxiety ($r = -.56$) and S-anxiety ($r = -.45$). This data lent support to Bowen's basic proposition that, the higher the level of differentiation of self, the lower the levels of situational as well as chronic anxiety.

Skowron and Friedlander (1998) also utilized the STAI to examine support for discriminant validity using a scale that they developed to measure differentiation of self. The Differentiation of Self Inventory was utilized to measure differentiation of self, and the T-anxiety subscale was used as a measure of chronic anxiety. In support of the DSI's construct validity, level of differentiation, as measured by the DSI, correlated highly with a measure of chronic anxiety. DSI full-scale scores significantly predicted Trait anxiety, as measured by the STAI-T ($\underline{r} = .64$, $p < .0001$). Correlations between Trait Anxiety and the four subscales ranged from .16

(p<.01, Fusion with parents) to .51 (I Position), .55 (Reactive Distancing), and .58 (Emotional Reactivity), all remaining p <.0001.

In a study examining Bowen Family Systems Theory and family-of-origin influences in young-adult, career-decision problems, Larson and Wilson (1998) utilized the STAI-T to assess anxiety and the PAFS-Q to measure Bowen's concepts. As a means of expediting data collection, 10 out of 20 items were randomly selected from the STAI-T. The internal consistency of this abbreviated scale was .83 (coefficient alpha). The authors hypothesized that intimidation, fusion and triangulation would be directly related to anxiety in young adults, and that anxiety would be directly related to career decisions problems in young adults. Results indicated partial support for the hypothesis that triangulation, intimidation, and fusion would be directly related to anxiety in young adults. Results of the study demonstrated that anxiety in the individual is related to career decision-making problems, thus providing convergent validity to Bowen theory.

In another study that utilized the STAI to examine if a relationship exists between anxiety and differentiation of self, Griffin and Apostal (1993) investigated the influence of relationship enhancement training on basic and functional levels of differentiation of self. Results indicated a negative relationship between anxiety and basic and functional levels of differentiation of self.

In a review of the literature, there is a preponderance of studies that utilize the STAI to support the relevance to construct validity of measures of differentiation of self. This may stem from the desire to replicate studies in order to examine the reliability of previous study results. It is also a useful measure to utilize in basic research to examine propositions within Bowen theory, which further establishes support of its nomonological network. The STAI is also employed in

examining the construct differentiation of self through convergent and discriminant validity. This further lends empirical support of Bowen theory.

Conceptually, the STAI is also a good measure to utilize in studying differentiation of self, because it is purported to measure only anxiety, while other tests also tap into various aspects of functioning. Some studies focused on the construct validity of differentiation of self contained tests that attempted to assess anxiety also included other aspects of functioning. For example, in a study to examine the degree of similarity of differentiation of self between partners in married and dating couples, Bartle (1993) used the Behavioral and Emotional Reactivity Index to assess similarity in self-differentiation. The Behavioral and Emotional Reactivity Index examines behavioral responses to emotion-evoking situations to assess level of emotional reactivity. It does not singularly measure anxiety, as the STAI purports to do, and as research has concluded.

In over 3,300 archival publications, the STAI was utilized to measure anxiety (Spielberger, 1983). It has been used in psychology, as well as in numerous other disciplines. As noted, it has been used in several research studies to help support the construct validity of differentiation of self in several measures that will also be used in the present research study.

Symptom Checklist-90 Revised (SCL-90-R)

The variable psychiatric dysfunction was operationally defined by scores on the Symptom Checklist-90 Revised (SCL-90-R). The SCL-90-R contains nine subscales and three global Indices for a total of 90 items. The subscales include Somatization (SOM), Obsessive-Compulsive (O-C), Interpersonal Sensitivity (I-S), Depression (DEP), Anxiety (ANX), Hostility (HOS), Phobic Anxiety (PHOB), Paranoid Ideation (PAR), and Psychoticism (PSY). The three

global indices include Global Severity Index (GSI), Positive Symptom Distress Index (PSDI), and Positive Symptom Total (PST).

The Somatization (SOM) dimension reflects distress that arises from perceptions of bodily dysfunction. Complaints focus on cardiovascular, gastrointestinal, respiratory, and other systems with strong autonomic mediation. Pain and discomfort of the gross musculature and additional somatic equivalents of anxiety are also components of Somatization. Examples of items on the SOM dimension include questions regarding distress caused by headaches, soreness of muscles, and heart or chest pain.

The Obsessive-Compulsive (O-C) dimension includes symptoms that focus on thoughts, impulses and actions that are experienced as unremitting and irresistible and experienced as unwanted. Examples of items on the O-C dimension include questions regarding distress caused by having to check and recheck what you do and having to repeat the same actions, such as touching, counting or washing.

The Interpersonal Sensitivity (I-P) dimension focuses on feelings of inadequacy and inferiority, particularly in comparison with other people. Self-deprecation, self-doubt, and marked discomfort during interpersonal interactions are characteristic manifestations of this syndrome. Examples of items on the I-P dimension include questions regarding feelings that people are unfriendly or that you are inferior to other people.

The Symptoms of the Depression (DEP) dimension reflects a range of manifestation of clinical depression. Symptoms of dysphoric affect and mood are included, as well as lack of motivation or low energy. Other symptoms include feelings of hopelessness, suicidality, or signs of withdrawal of life interest. Examples of items on the DEP dimension include questions regarding crying easily, feeling worthless and worrying too much about things.

The Anxiety (ANX) dimension includes general signs of anxiety, such as nervousness, trembling and tension, and also includes questions regarding panic attacks and feelings of terror. Examples of items on the ANX dimension include feeling shaky inside, heart pounding or racing and feeling that something bad is going to happen.

The hostility (HOS) dimension reflects thoughts, feelings or actions that are characteristic of the negative affect state of anger. The items include all three modes of expression, and reflects qualities such as aggression, irritability, rage and resentment. Examples of items on the HOS dimension include questions regarding temper outbursts that are uncontrollable, feeling easily irritated and having urges to break or smash things.

Phobic Anxiety (PHOB) is defined as a persistent fear response—to a specific place, person, object, or situation. It is irrational and disproportionate to the stimulus and leads to escape behavior or avoidance. Examples of symptoms of the PHOB dimension include questions regarding fear of traveling in cars, trains or planes, fear of leaving your home, and fear of open spaces.

The Paranoid Ideation (PAR) dimension reflects paranoid behavior fundamentally as a disordered mode of thinking. Cardinal characteristics of projective thought, suspiciousness, hostility, grandiosity, and delusions are viewed as symptoms representing this disorder. Examples of items on the PAR dimension include questions regarding feelings that you are watched or talked about, feelings that most people cannot be trusted, and feelings that others are to blame for most of your troubles.

The Psychoticism (PSY) dimension was designed to represent the construct as a continuous dimension of human experience. Items indicative of a withdrawn, isolated, schizoid

lifestyle were included. Examples of items of the PSY dimension include questions regarding the idea that someone can control your thoughts and hearing voices that no one else can hear.

The Global Indices function to communicate in a single score the depth or level of the individual's psychological distress. The Global Severity Index is the single, best indicator of the current level or depth of the dysfunction. It combines number of symptoms, as well as their level of intensity. It should be utilized as an indicator for the intensity of perceived distress when a single summary measure is called for. The Positive Symptom Distress Index measures the average level of distress for the symptoms that were endorsed. It should be interpreted as a measure of symptom intensity. The positive symptom Total is a representation of the number of symptoms, regardless of the level of perceived intensity. It can be interpreted as to the breadth of symptoms.

Additional items are included in the scale, which are used as contributions to the total score of the SCL-90R due to their clinical significance. They include items that question the presence of a poor appetite, trouble falling asleep, overeating, or feelings of guilt. They are included because they communicate relevant information to the clinical picture of the respondent. The SCL-90 is a measurement tool designed in the early 1970s to replace the Hopkins Symptom Checklist (HSCL) by Derogatis, Lipman, Rickels, Uhlenhuth, and Covi, (1974), due to a number of limitations that rendered it problematic. These difficulties included the fact that the HSCL was designed exclusively as a research test and was never formally normed for the individual respondent. There was also insufficient breadth of coverage of psychopathology and psychological distress. Another difficulty was that a number of items in the test were not factorally "pure" (Derogatis, 1994). The core five items of the primary symptom dimensions of the HSCL were retained, and 45 new items were added to the test. The

45 new items were subsumed under four new symptom dimensions that were added. Another important change was that the distress continuum was extended to a 5-point Likert scale, along with changes to various aspects of the instructions and administration format.

The Symptom Checklist-90 (SCL) (Derogatis, Lipman, rickels, Uhlenhuth & Covi, 1974) was the prototype for the SCL-90R. Item analysis revealed that items on the Obsessive-Compulsive and Anxiety scale were not psychometrically sound. Additionally, ambiguities existed in the distress continuum and in the test instructions, and they were modified in the revised version of the SCL-90R. Additionally, most research that has been conducted demonstrating the reliability and validity of the measure has utilized the revised version of the Symptom Checklist-90-R. Finally, there are no sanctioned norms for the SCL-90; all norms were developed afterwards and are based on the SCL-90-R version.

Social Readjustment Rating Scale (SRRS)

The Social Readjustment Rating Scale (SRRS) by Holmes and Rahe is a 43-item scale that was developed in 1967 to measure life-stress events occurring in the recent past (previous six to twelve months) as a method of determining the role of life change in the etiology of physical and psychiatric illnesses. Life change is conceptualized as any event which requires a modification in the individual's accustomed way of life. This life change may occur in any aspect of the individual's life and be perceived as either positive or negative.

Reflecting major areas of significance-in-life items includes family constellation, marriage, economics, occupation, residence, group and peer relationships, education, religion, recreation, and health. The SRRS is based on the assumption that any disruption in an

individual's normal life patterns requires a series of adjustments that are always stressful to some degree (Hough, Fairbanks, & Garcia, 1976). The accumulation of a significant number of changes and the adjustments that they require will produce enough stress to bring on illness.

In a study that involved the SRRS to determine duration of psychotherapy, Norfleet and Burnell (1990) found that total visits were correlated with a count of positive responses to the SRE loss questions (Pearson's $r = .083$, $p<.029$). When total number of psychotherapy visits were correlated with total number of endorsed loss items and SRRS scores, results were similar ($r = .085$, $p<.025$). Loss items include those events that are considered negative, such as loss of employment or divorce. Events such as the birth of a child or a promotion at work are considered positive events, but still result in a stress response. Items that correlated significantly with length or duration of psychotherapy were: divorce ($p<.005$), fired at work ($p<.001$), death of a close family member, or a son or daughter leaving home ($p<.07$).

In the study, "Do Parents' Differentiation Levels Predict Those of Their Adult Children? And Other Tests of Bowen Theory in a Philippine Sample," Tuason and Friedlander (2000) utilized the SRRS as a potential covariate to determine whether environmental stress as measured by the SRRS could predict level of differentiation. This hypothesis sought to validate Bowen's proposition of multigenerational transmission, whereby the stress in a family member is felt in the family emotional system and passed on from one generation to the next. Findings indicated that level of differentiation of self was not significantly predicted by the current levels of environmental stress.

Conclusion

The literature on differentiation of self is clear that a key element in utilizing measurement tools to assess an individuals' level of functioning is their ability to differentiate

between their intellectual and emotional systems; that is, whether the individual has the capacity to make life decisions based on an integration of the two systems so as to be better able to attain life goals. Those individuals who are not able to integrate the two systems, but rather have a fusion between the intellectual system and emotional system, are more likely to make life decisions in a more emotionally reactive manner. These individuals are more likely to have more life problems based on their inability to be objective and to use thoughtful planning.

An individual who appears to have an integration of the intellectual system and emotional system may be absorbing anxiety in the family system through triangulation, marital discord, dysfunction in a spouse or dysfunction in a child. For this reason, it is critical that, for any test to measure differentiation of self, several critical elements as noted must be included for the test to be valid and reliable.

In conclusion, a review of the literature shows that differentiation of self is a complex, multidimensional construct. It is also apparent that designing an assessment tool to measure differentiation of self is a difficult and complicated process. So far, research has been limited in documenting and developing construct validity for the scales that measure differentiation of self.

Nor are there any studies in the literature that utilized a clinical and nonclinical sample to provide further validity of the measurement tools. Additionally, more basic research must be done to further empirical support of the nomological network of the constructs within Bowen Family Systems Theory. The purpose of this study was to determine further construct validity of each of the scales selected to measure aspects of the construct differentiation of self. This was accomplished by administering scales to a clinical and nonclinical sample that measures differentiation of self, anxiety, triangulation, marital conflict, and somatic symptoms as they relate to dysfunction in a spouse.

In the present study, the inclusion of a symptom checklist assisted in determining what outcomes or adaptations to chronic anxiety are present in the participant. While participants may respond to questions about their emotional maturity in a socially desirable manner, it is easier to discern whether an individual is manifesting somatic symptoms of chronic anxiety through a symptom checklist. This is due, in part, to the ability for individuals to more honestly report a somatic symptom, versus an attribute that implies a social weakness. This limitation was offset by the inclusion of several scales that measure differentiation of self.

CHAPTER III

METHOD

Research Design

This study was conducted to explore the interrelationships of measurement tools designed to assess levels of differentiation of self, a major component of Bowen Family Systems Theory, and other theoretically related variables. The study was intended to examine the contributions of these instruments to developing construct validity of Bowen's process of differentiation of self. Other components of Bowen Family Systems Theory that were also examined in relation to differentiation of self include anxiety, triangulation, spousal fusion/individuation, intimacy, dysfunction, and social readjustment.

Differentiation of self was examined utilizing the Differentiation of Self Inventory (DSI) (Skowron & Friedlander, 1998) and the Personal Authority in the Family System Questionnaire (PAFS-Q) (Bray et al., 1984). Subscales of the DSI include Emotional Cutoff, Fusion with Others, "I Position", and Emotional Reactivity. Differentiation of self was also measured by scores on three subscales of the PAFS-Q. Specific subscales utilized include the Intergenerational Fusion/Individuation (Infus), Intergenerational Intimidation (INTIM), and Personal Authority (PERAUT) scales.

Triangulation was measured by the Nuclear Family Triangulation (NFTRI) and Intergenerational Triangulation (INTRI) subscales of the Personal Authority in the family System Questionnaire (PAFS-Q) (Bray et al., 1984). Anxiety was examined utilizing the Trait version of the State-Trait Anxiety Inventory (STAI-T) (Spielberger et al., 1983). Spousal Fusion/Individuation was measured utilizing the Spousal Fusion/Individuation (SPFUS) subscale of the Personal Authority in the Family System Questionnaire (PAFS-Q) (Bray et al., 1984). Intimacy was assessed utilizing the Intergenerational Intimacy (ININT) and Spousal Intimacy (SPINT) subscales of the Personal Authority in the Family System Questionnaire (PAFS-Q) (Bray et al., 1984). Dysfunction was assessed using the symptom Checklist-90-Revised (SCL-90-R) (Derogatis, 1994). Life stress events were measured by the Social Readjustment Rating Scale (SRRS) (Holmes & Rahe, 1967).

Setting

The study took place in a large, urban university-based medical center in a northeastern state.

Sample

The clinical sample was to be 90 married adult (18+) patients who were attending outpatient counseling at the behavioral health outpatient department. The nonclinical sample

was intended to be 90 married adults (18+) who were employed in the behavioral health outpatient department. A power analysis is the basis for deciding the sample size for an investigation, and in determining the effect size (ES), in order to represent the magnitude of treatment effects found (Cohen, 1988). Four overall factors that determine statistical power are the statistical test, effect size, sample size, and alpha level. For this study, the following recommendations by Cohen (1988) were adhered to: alpha = .05, medium effect size (ES) = .25, power = .80. This combination yielded a sample size of 180 participants. This number was calculated utilizing GPOWER, a general power analysis software program (Erdfelder, Faul & Buchner, 1996).

Conduct of the Study

The clinical sample was obtained at a Department Head Meeting, where I provided a protocol summary to all outpatient Psychiatric Department managers. I explained the research study, the purpose of the study, and the amount of time I needed to spend with them on each of their respective units. I asked them to identify those patients who would be willing to participate in the study, and if they or their staff would also be interested in volunteering to participate in the nonclinical sample.

A packet which included an information sheet describing the purpose of the study was distributed to them. The study was described as "focusing on emotional health of the self." Anonymity and the voluntary nature of the study were also explained. The participants were allowed time to complete the packet in a patient conference room or the employee lounge. If more time was required to complete the questionnaires, the participants were informed that they could take the packet home and return it to me when it was completed. The packet also contained five questionnaires and a demographic sheet. The questionnaires included the

Differentiation of Self Inventory (Skowron & Friedlander, 1998), the Personal Authority in the Family System Questionnaire (Bray et al., 1984). The State-Trait Anxiety Inventory (STAI) (Speilberger et al., 1983), the Symptom Checklist-90-Revised, (Derogatis, 1993) and the Social Readjustment Rating Scale (Holmes & Rahe, 1967). Once all measurement tools were completed, the data collection component of the study was completed.

Measurement Tools

Differentiation of Self Inventory (DSI)

The Differentiation of Self Inventory (DSI) by Skowron and Friedlander (1998) is a multidimensional self-report measure focused on adults (25 and older), their significant relationships, and current relationships with members of their families-of-origin. It is a multidimensional measure of differentiation consisting of four subscales focused specifically on adults (aged 25 or older), their significant relationships and current relations with their families of origin. Participants respond to items using a 6-point Likert scale, ranging from 1 (not at all true of me) to 6 (very true of me). The four subscales are largely based on Bowen theory and include Emotional Reactivity (ER), "I Position" (IP), Emotional Cutoff (EC), and Fusion With Others (FO). The DSI takes approximately ten minutes to complete.

The DSI full scale score is calculated by reversing raw scores on all items on the ER, EC, and FO subscales and one item on the IP subscale (# 35). Scores on all of the items are then summed and divided by the total number of items (emotional reactivity = 11, "I Position" = 11, Emotional Cutoff = 12, and Fusion with Others = 9). This yields scores that range from 1 (low differentiation) to 6 (high differentiation). To calculate each of the four subscale scores, the same items are reversed, summed and divided by the number of items in that subscale.

A construct approach to test construction was utilized to develop the DSI. This included a series of studies on three different samples. The first study was for the purpose of developing the DSI. Ninety-six items were taken from the literature on Bowen Family Systems Theory to generate an item pool that best reflected the construct, differentiation of self. A principal-components analysis was utilized to determine the DSI's dimensionality and to identify final item selection. The 96-item DSI and the Trait Anxiety scale of the State-Trait Anxiety Inventory (STAI-T) (Spielberger, et al., 1970) were administered to 313 participants. Four subscales emerged from the results. Factor 1 loaded with 12 items and was identified as Emotional Reactivity (ER), Factor 2 loaded with 10 items and was labeled as "I Position" (IP), and Factor 3 loaded with 13 items and was labeled as Reactive Distancing (RD). Lastly, Factor 4 loaded with 9 items and was named Fusion with Parents (FP). To further determine construct validity the DSI was then correlated with the STAI-T. Results of the scores were significant predictors of trait anxiety ($\underline{r} = .64$, $\underline{p} < .0001$), lending discriminant validity to the DSI.

Study 2 was undertaken to revise the original DSI because of an unacceptable amount of variance not accounted for in Study 1. Conceptual revisions and psychometric properties were strengthened by further item analysis and by testing for social desirability bias. This was done by changing the names and foci of two factors that were conceptually weak. Two factors changed Reactive Distancing and Fusion with Parents, and were renamed Emotional Cutoff and Fusion With Others. The authors also included in the test packets Crowne and Marlowe's (1960) social desirability scale (SDS) to assess social desirability bias in the results. Correlations between the social desirability scores and the DSI ranged from -.15 to .49. No additional items were eliminated, due to the fact that the remaining 43 items were found to lower the internal consistency reliability of their respective subscales.

The purpose of Study 3 was to test theoretically predicted relationships between differentiation of self, psychological symptoms, and marital satisfaction. The DSI's factor structure was also examined using confirmatory analysis. A total of 127 adults participated in the study. The Hopkins Symptom Checklist, a four-point Likert type scale by Derogatis, Lipman, Rickels, Uhlenhuth, and Covi (1974) was also administered. This self-report measure assesses for psychological symptoms and reflects degree of distress experienced in the past seven days. The Hopkins Symptom Checklist is the original scale that was used to develop the Symptom Checklist 90-R (Derogatis, 1994), which was used in the present study to assess psychological symptoms that reflect degrees of distress. The Dyadic Adjustment Scale (DAS) by Spanier (1976) was also administered to the 91 married participants. The DAS assesses relationship discord and overall marital satisfaction.

Results of Study 3 demonstrated support for the four DSI subscales, emotional reactivity, I position, emotional cutoff, and fusion with others as empirically distinct dimensions of the construct differentiation of self. Further analysis supported initial construct validity as well as internal-consistency reliability. Predicted relationships between differentiation of self, psychological symptoms, and marital satisfaction supported the convergent validity and thus provided significant psychometric support for the DSI.

Skowron and Friedlander (1998) encouraged future research to test the DSI for gender differences using equal numbers of men and women. Samples in the three studies included 213 women and 98 men, 111 women and 58 men, and 73 women and 53 men, respectively.

Personal Authority in the Family System Questionnaire (PAFS-Q)

The PAFSQ (Bray et al., 1984) is a self-report measurement tool designed to assess important family relationships in a three-generation family system. It was developed to provide

an assessment of intergenerational family relationships as perceived by each family member. Key concepts and behaviors that are examined are individuation, fusion, triangulation, intimacy, isolation, intergenerational intimidation, and personal authority. The participant describes current relationships with each relevant family member in the family of origin, the nuclear family, or a dyadic relationship.

Interpretation of the PAFS-Q results occurs by comparing the raw scores of each subscale to mean subscale scores of previous research. Scores are then converted into a range of low to high. The T-scores are based on the normative data collected from a nonclinical adult sample aged 19 to 62 years of age by Bray et al. (1984). The PAFS-Q takes approximately 15 minutes to complete.

Bray et al. (1984) described the development of the PAFS-Q. They used the PAFS-Q, as well as two other instruments that measure family processes, to determine correlations and construct validity for the PAFS-Q. The two scales are the Dyadic Adjustment Scale (Spanier, 1976) and the Family Adaptability and Cohesion Evaluation Scale (Olson, Bell & Portner, 1978). During the first study, the PAFS-Q was evaluated for internal consistency of the scales, the test-retest reliabilities of the scales, and the correlations with other tools that measure family processes. Participants completed the PAFS-Q, The Dyadic Adjustment Scale (DAS; Spanier, 1976), and the Family Adaptability and Cohesion Evaluation Scales (FACES) (Olson, et al., 1978). The DAS measures marital and dyadic adjustment, and the FACES measures the degree and style of adaptability and cohesion as perceived by family members. The DAS and FACES were included to provide indications of convergent-discriminant validity of the PAFS-Q.

At Time 1, the coefficients ranged from .82 to .95 with a mean of .90. At Time 2, the coefficients ranged from .80 to .95 with a mean of .89. The reliability estimates were generally

consistent across time periods. Test-retest reliability estimates were also calculated. The reliability estimates ranged from .55 to .95 with a mean test-retest reliability of .74. All of the reliabilities, except for the INFUS scale, were within an acceptable range.

Study 2 utilized a revised version of the PAFS-Q. In it, a new scale called Personal Authority was added, bringing the total number of items on the scale to 141. Items in the new scale reflected an individual's ability to have personal conversations, while maintaining a separate sense of self. Factor analytic techniques to further evaluate the psychometric properties and validity of the PAFS-Q were used. The conceptual scales were factor analyzed using a sample of 400 nonclinical adults. Cronbach's alpha was calculated for each weighted factor. The items specified for each factor were loaded .35 or above. Items that overlapped were placed on the factor with the highest loading. The measures of internal consistency ranged from .74 to .96 and were all within an acceptable range.

Results of both studies provided evidence for reliability and validity of the PAFS-Q. Construct validity was supported regarding several of the PAFS-Q scales and the global measure of the dyadic adjustment scores. Low correlations were found, though, between the PAFS-Q and FACES scales. However, the authors reported that there were also low correlations between the FACES and the DAS. They suggested that the FACES scales are based on a circumplex model, which is nonlinear. Therefore, the linear correlations may not adequately reflect the relationships. This may point to methodological issues that result from all three scales measuring different concepts within the construct differentiation. It also supports the authors' contention that further work needs to be done to adequately measure these important constructs.

Further analysis bolsters the construct validity of the PAFS-Q. The factor structures of the scales also support the conceptual scales, except for an overlap between items from the

spousal fusion/individuation (SPFUS) scale and spousal intimacy (SPINT) scale. SPFUS measures the degree to which a person operates in a fused or individuated manner in relationships with the spouse or significant other. The SPINT subscale is reported by Bray et al. (1984) as containing items that reflect satisfaction or dissatisfaction and degree of intimacy with the mate. Intimacy is defined as "voluntary closeness with distinct boundaries". Closeness without boundaries is described as "emotional fusion", and therefore not "intimacy". The authors reported that this finding reinforces the conceptualization of intimacy and individuation as closeness with separate boundaries.

In a later study on the PAFS-Q, Bray, Harvey and Williamson (1992) found very low correlations overall between the PAFS-Q scales and the Adaptation scores of Faces-I. The authors also reported correlations that were not strong between the PAFS-Q and the Faces-II. Also of concern was that the correlations between the PAFS-Q and the social desirability of the FACES-I had correlations above .30, indicating that people tended to answer these scales in a socially desirable manner. The authors suggested that these correlations should be considered when interpreting these scales.

The State-Trait Anxiety Inventory (STAI)

The STAI by Spielberger et al. (1970) is a self-report measure containing two separate scales for measuring anxiety. The Trait Anxiety subscale of the State Trait Anxiety Inventory is a measure of relatively stable individual differences in anxiety proneness. Chronic anxiety is an indicator as to how individuals manage the separation between the emotional and intellectual self, but also how they manage the separation of their individual self from their family of origin. Empirical evidence increases when a measure provides convergent validity to the construct being measured.

Each scale consists of 20 items with a 4-point Likert-type format asking respondents to rate how they feel right now (state-anxiety—S-anxiety) or how they generally feel (trait-anxiety—T-anxiety). Response categories for the T-Anxiety scale range from almost never (1) to almost always (4). Response categories for the S-Anxiety scale range from not at all (1) to very much so (4). S-anxiety and T-anxiety are printed on opposite sides of a single-page test form, and the trait version of the STAI takes approximately 5 minutes to complete. The test has a sixth-grade reading level.

Each STAI item is given a weighted score of 1 to 4. Scores for both scales are obtained by adding the weighted scores from the 20 items that make up each scale. Scores for both the S-Anxiety and the T-Anxiety scales can vary from a minimum of 20 to a maximum of 80. The score is then compared to normative group scores in the manual. Normative data includes scores obtained from multiple sample groups including ages 18 + years.

The STAI is a measurement tool that has been used extensively in clinical practice as well as research (Spielberger, 1983). Evidence of construct validity of both scales has been widely demonstrated. Construct validity for the T-Anxiety subscale was established when the mean scores of various neuropsychiatric (NP) patients were compared with those of normal respondents' scores. The mean score of NP patients for S-anxiety was 47.74 with a standard deviation of 13.24. This is compared to mean scores of normal adults for S-anxiety of 35.72 with a standard deviation of 10.40. Mean scores of NP patients for T-anxiety was 46.62 with a standard deviation of 12.41. Mean scores of normal adults for T-anxiety was 34.89 with a standard deviation of 9.19. This provides evidence that the STAI can discriminate between clinical and nonclinical populations. Higher T-Anxiety scores were also found in general

medical and surgical patients with psychiatric complications than for general medical and surgical patients without psychiatric complications.

Military recruits, when tested shortly after they started highly stressful training programs, scored much higher than those of college and high school students who were tested under relatively low stress conditions. The mean S-anxiety scores for the recruits were also much higher than their own T-Anxiety scores. Contrastingly, the mean scores of T-Anxiety and S-Anxiety for normal subjects under non-stressful conditions were quite similar. Further evidence of construct validity can be noted in the results of S-anxiety scores of college students which were significantly higher under school-testing conditions, and significantly lower after relaxation training than when they were tested during regular class time.

Internal consistency estimates for the T-anxiety have ranged from .86 to .92, and a test-retest reliability correlation over a three-month interval was reported to be .75. In comparison to large changes in S-anxiety scores produced by stress conditions, T-anxiety scores remain stable and unaffected by experimentally induced stressors (Spielberger, et al., 1970).

In general, Spielberger (1983) reported that Trait-State anxiety theory predicted higher correlations between S-anxiety and T-anxiety in social-evaluative situations and lower correlations in physical-danger ones. This has important implications for construct validity of the STAI, since the correlations between the scales seems to depend on the amount and kinds of stress associated with the condition under which the test is administered.

The Symptom Checklist 90-Revised (SCL-90-R)

The SCL-90-R is a 90-item self-report symptom measure intended to assess the psychological symptom patterns of community, medical and psychiatric respondents. For the purpose of this study, the SCL-90-R will be utilized to measure the construct dysfunction as it

relates to how an individual responds to chronic anxiety in the family system. An individual who appears to have an integration of the intellectual system and emotional system may be absorbing anxiety and are more likely to have more life problems based on their inability to be objective and to use thoughtful planning.

Each item of the SCL-90-R is rated on a 5-point Likert scale of distress (0-4) ranging from "not at all" to "extremely." There are nine primary symptom dimensions and three global indices of distress. The nine primary symptom dimensions are: Somatization (SOM), Obsessive-Compulsive (O-C), Interpersonal Sensitivity (I-S), Depression (DEP), Anxiety (ANX), Hostility (HOS), Phobic Anxiety (PHOB), Paranoid Ideation (PAR), and Psychoticism (PSY). The three global indices are: Global Severity Index (GSI), Positive Symptom Distress Index (PSDI), and the Positive Symptom Total (PST). The Global Indices were developed to provide more flexibility in the overall assessment of the patient's psychopathologic status and to furnish summary indices of levels of symptomatology and psychological distress.

The SCL-90-R takes approximately 15 minutes for participants to complete and requires a sixth grade reading level. Scoring the SCL-90-R is done by summing the values (1-4) for the item responses in each of the nine symptom dimensions and the seven additional items that are used to calculate the global indices. The sum of each symptom dimension is then divided by the number of items in that dimension. The Global Severity Index (GSI) is computed by summing the scores on the nine symptom dimensions and the additional items. This number is then divided by the number of responses given. The Positive Symptom total (PST) is calculated by counting the number of items answered with a positive response. This number is then divided into the sum of all item values to obtain the Positive Symptom Distress Index (PSDI). Standardized scores or T-scores are provided in the manual for four norm groups. These include

adult psychiatric outpatients (Norm A), adult nonpatients (Norm B), adult psychiatric inpatients (Norm C), and adolescent non-patients (Norm E).

The internal consistency coefficients for the nine symptom dimensions of the SCL-90-R were satisfactory. These ranged from a low of .77 for Psychoticism to a high of .90 for Depression in one study and from a low of .79 for Paranoid Ideation to a high of .90 for Depression in another study. The test-retest coefficients were between .80 and .90 in a study of 94 heterogeneous psychiatric outpatients who were assessed during an initial evaluation and tested one week later prior to their first therapy sessions. In another study, test-retest coefficients ranged from .68 for Somatization to .83 for Paranoid Ideation. These results were derived from an elapsed time of 10 weeks between assessments.

The internal structure of the SCL-90-R was also examined, and it was found that the empirical analysis matched the theoretical structure, lending construct validity to the measure. Factorial invariance was also examined to determine the SCL-90-R's generalizability and utility. Several studies were conducted on the first five symptom dimensions in the context of the Hopkins Symptom Checklist. Demonstrations of invariance for these dimensions were provided concerning psychiatric diagnosis and social class (Derogatis et al., 1972).

Convergent-discriminant validation was established when the SCL-90-R was compared to other multidimensional measures of psychopathology. In a study by Derogatis et al. (1976), 209 "symptomatic volunteers" contrasted the dimension scores on the SCL-90-R scores on the MMPI. Correlations between the SCL-90-R primary symptom dimensions and the MMPI clinical scale were highly acceptable. Convergent-discriminant validity was found in every case, except for the Obsessive-Compulsive, which has no directly comparable scale on the MMPI.

Social Readjustment Rating Scale (SRRS)

The Social Readjustment Rating Scale (SRRS) by Holmes and Rahe (1967) is a widely used measurement tool that was developed to measure environmental factors that lead to stress. It is a 43-item scale in which respondents are requested to identify which of the listed events occurred in the previous six months to one year of their lives. Each of the items is considered to require a significant amount of adjustment for an individual and may lead to physical and/or psychiatric dysfunction. The scale takes approximately five minutes to complete.

The SRRS measures life change by asking respondents to judge the magnitude of social readjustment necessitated by life events, which reflect change. More specifically, respondents are asked to rate each event only in terms of the social readjustment each would require, and to disregard the desirability or undesirability of the event. The responses refer only to the quantity of change caused by the event not to the qualitative nature of the event.

Holmes and Rahe (1967) developed the SRRS, not as a means of directly assessing the amount of readjustment required by life changes, but rather the perceived change that different types of events produced. Subjects were asked to assign numerical values to 42 commonly experienced events such as divorce, personal injury, and change in residence. Ratio estimates were used to determine results of the responses. This occurred by asking subjects to rate how much more or less adaptation the experiences would require than a criterion variable, such as marriage. The criterion variable, marriage, was assigned the arbitrary number 50. If another experience was judged by the individual to be twice as serious, it was assigned a 100. If it was judged one-half as serious it was assigned a score of 25.

As part of its development, Holmes and Rahe (1967) employed a convenience sample of 394 subjects who were asked to judge the life events of the 42 items. Holmes and Rahe (1967) averaged the values assigned to the event across the subjects who estimated the values that

yielded a number that became, for the purposes of the later research, the amount of change needed to adjust to that particular event. Standardized weights were assigned to each item on the basis of degree of difficulty in adjusting to that life event. In using the SRRS, it was possible to count for any given individual the number of Life Change Units experienced within a given time period.

While the concept that stressful events can lead to illness is well integrated into the epidemiological literature, the reliability and validity of life-event measurements of stressful events is subject to controversy (Tausig, 1982). Despite the fact that the SRRS has received a great deal of popular interest and acclaim, there is a paucity of psychometric data reported on the SRRS (Tuason & Friedlander, 2000).

In a study that compared three life-event-weighting indices Ross and Mirowsky (1979) measured the concept of change, undesirability, and effect-proportional methods of measuring the effects of change in terms of how well they predict psychiatric symptomology. The researchers examined life-event-weighting indices that measure subjective estimates of the amount of change that an event requires. For example, researchers may weigh events simply as 0 for an event a person has not had, and 1 for an event that a person has experienced. They also explored life-event-weighting indices that measure estimates of how upsetting the events are. For example, categories may be divided into desirable, undesirable, and ambiguous. This can be accomplished by a panel of judges or by subjects categorizing each event. Finally, researchers may use average estimates taken from an earlier sample, such as the SRRS, or their own subjects' individual estimates. By whatever method events are weighted, an overall score would be determined by subtracting the weight of the subject's desirable events from the weight of his undesirable ones, or by determining the ratio of one to the other.

Results of the study indicated that of the three measures of life-event-weighting indices; undesirable characteristics of life events are associated with increased psychiatric symptomology. The authors concluded, though, that by utilizing the theoretical axiom that stressfulness can be inferred from the usual response to the event, effect-proportional indices may be the most valid measure of stressfulness. Results of an effect-proportional index can then be used to better predict symptomology.

Holmes and Rahe (1967) utilized a unidimensional concept of life change referring only to the quantity of change, not the quality of change. In a study that investigated whether life change involves qualitative as well as quantitative factors, Zimbardo and Ruch (1977) sought to explicate the dimensionality of the concept of life change. Magnitude estimation, as well as smallest space analysis, was utilized to determine differences between a unidimensional and multidimensional solution to understand the concept of life change. Magnitude estimation is a unitary scaling device which refers only to the quantity of change required by an event. Utilization of smallest space analysis is a method of analysis which allows a determination of whether a one-, two-, or three-dimensional solution provides a better fit with the data.

The SRRS was administered to 211 undergraduate students aged 18 and 19 years old who were enrolled at the University of Hawaii. Results from the study, when compared to the SRRS, were similar, as indicated by a high Spearman rank-order correlation ($r = 0.97$) between the scale values providing convergent validity. While college students may not have experienced as many events on the SRRS scale as in the Holmes and Rahe (1967) sample, they actually made very similar judgments concerning the degree of change life events require.

Major Limitations

Limitations to this study include using a sample of convenience to assess the contributions to construct validity of the Differentiation of Self Inventory (DSI) (Skowron & Friedlander, 1998), the Personal Authority in the Family System Questionnaire (PAFS-Q) (Bray, et al., 1984), The Trait Version of the State Trait Anxiety Inventory (STAI-T) (Spielberger et al., 1983), and the Symptom Checklist 90-R (SCL-90R) (Derogatis, 1994). The majority of participants were White, Hispanic, and African American, married adults from a suburban community. Ages of the married adults ranged from 25 years of age and up. These factors limit the generalizability of the findings. Another limitation of this study results from the lack of multiple family members' knowledge of perspectives on family-systems issues.

Summary

The literature on differentiation of self makes clear that a key element in determining an individuals' level of functioning is one's ability to differentiate between intellectual and emotional systems; that is, whether the individual has the capacity to make life decisions based on an integration of the two systems so as to be better able to attain life goals. Those individuals who are not able to integrate the two systems, but rather have a fusion between the intellectual system and emotional system, are more likely to make life decisions in a more emotionally reactive manner. These individuals are more likely to have more life problems based on an inability to maintain one's own perspective and to use thoughtful planning. Knudson-Martin (1996) explicated differences between Bowen (1978) and Kerr and Bowen (1988), and suggested a modification to include the female emotional connection as part of identity formation. In conclusion, a review of the literature shows that differentiation of self is a complex, multidimensional construct. It is also apparent that designing an assessment tool to measure differentiation of self is a difficult and complicated process. So far, no researcher has

documented an attempt to develop construct validity in relation to the scales that measure differentiation of self other than the one being developed by the particular researcher who developed the specific tool. It was my intention to further determine the potential usefulness of each of the scales selected to measure aspects of the construct, differentiation of self. This was attempted by administering scales that measure differentiation of self, triangulation, anxiety, intimacy, dysfunction, life stress events and spousal fusion/individuation, all interrelated constructs in Bowen Family Systems Theory.

Research and Exploratory Hypotheses

Research Hypothesis 1

Married adults with higher levels of differentiation of self will show evidence of lower levels of anxiety, triangulation, spousal fusion, dysfunction, and life-stress events and higher levels of intimacy than married adults with lower levels of differentiation of self.

Operational definitions. The following terms were operationally defined as follows:

Differentiation of self was operationally defined by scores on the Differentiation of Self Inventory (DSI) (Skowron & Friedlander, 1998). Subscales of the DSI include Emotional Cutoff, Fusion with Others, "I Position" and Emotional reactivity.

Anxiety was operationally defined by scores on the Trait Anxiety subscale of the State-Trait Anxiety Inventory (STAI-T) (Spielberger et al., 1983).

Triangulation was operationally defined as scores on the subscales Nuclear Family Triangulation (NFTRI) and Intergenerational Triangulation (INTRI) of the Personal Authority in the Family System Questionnaire (PAFS-Q) (Bray et al., 1984).

Spousal Fusion was operationally defined as scores on the subscale Spousal Fusion/Individuation of the Personal Authority in the Family System-Questionnaire (PAFS-Q) (Bray et al., 1984).

Intimacy was operationally defined as scores on the subscales Spousal Intimacy and the Intergenerational Intimacy of the Personal Authority in the Family System-Questionnaire (PAFS-Q) (Bray et al., 1984).

Dysfunction was operationally defined by the Global Severity Index score on the Symptom Checklist-90 Revised (SCL-90R) (Derogatis, 1994).

Life-stress events were operationally defined by scores on the Social Readjustment Rating Scale (SRRS) (Holmes & Rahe, 1967).

For Hypothesis 1, the analysis of differences between samples of married adults with higher levels of differentiation of self and married adults with lower levels of differentiation of self were conducted through multivariate analysis of variance (MANOVA).

Research Hypothesis 2

Clinical samples demonstrate higher levels of anxiety, triangulation, spousal fusion, dysfunction and life-stress events and lower levels of differentiation of self, and intimacy than nonclinical samples.

Operational definitions. The following terms were operationally defined as follows:

Differentiation of self was operationally defined by scores on the Differentiation of Self Inventory (DSI) (Skowron & Friedlander, 1998). Subscales of the DSI include Emotional Cutoff, Fusion with Others, "I Position" and Emotional reactivity.

Anxiety was operationally defined by scores on the Trait Anxiety subscale of the State-Trait Anxiety Inventory (STAI-T) (Spielberger et al., 1983).

Triangulation was operationally defined as scores on the subscales, Nuclear Family Triangulation (NFTRI) and Intergenerational Triangulation (INTRI) of the Personal Authority in the Family System Questionnaire (PAFS-Q) (Bray et al., 1984).

Spousal Fusion was operationally defined as scores on the subscale Spousal Fusion/Individuation of the Personal Authority in the Family System-Questionnaire (PAFS-Q) (Bray et al., 1984).

Intimacy was operationally defined as scores on the subscales Spousal Intimacy and the Intergenerational Intimacy of the Personal Authority in the Family System-Questionnaire (PAFS-Q) (Bray et al., 1984).

Psychiatric Dysfunction was operationally defined by the Global Severity Index score on the Symptom Checklist-90 Revised (SCL-90R) (Derogatis, 1994).

Life-stress events were operationally defined by scores on the Social Readjustment Rating Scale (SRRS) (Holmes & Rahe, 1967).

For Hypothesis 2, the analysis of differences between clinical and nonclinical samples was conducted through multivariate analysis of variance (MANOVA).

Exploratory Hypothesis

Measures of differentiation of self will show moderate-to-strong relationships with each other and be meaningfully associated.

Operational definition. The term, *differentiation of self,* was defined operationally as follows:

Differentiation of self was operationally defined by scores on the Differentiation of Self Inventory (DSI) (Skowron & Friedlander, 1998). Subscales of the DSI include Emotional Cutoff, Fusion with Others, "I Position" and Emotional reactivity. Differentiation of self will

also be measured by scores on subscales of the Personal Authority in the Family System Questionnaire (PAFS-Q) (Bray et al., 1984). Subscales of the PAFS-Q used to measure differentiation of self include Intergenerational Fusion/Individuation (INFUS), Intergenerational Intimidation, and Personal Authority (PerAut).

For Exploratory Hypothesis 1, statistical analysis to determine relationships between measures of differentiation of self was conducted using Pearson Correlation Coefficient.

Measurement Tools and Subscale Table

The following list includes variables that were measured by scores on specific subscales:

Variable	Measurement tool	Subscale
Differentiation of Self	DSI	1. Emotional Reactivity 2. I position 3. Emotional Cutoff 4. Fusion with Others
	PAFS-Q	1. Intergenerational Fusion/Individuation 2. Intergenerational Intimidation 3. Personal Authority
Triangulation	PAFS-Q	1. Nuclear Family Triangulation 2. Intergenerational Triangulation

Anxiety	STAI	1. Trait Anxiety version
Spousal Fusion/ Individuation	PAFS-Q	1. Spousal Fusion/Individuation
Intimacy	PAFS-Q	1. Intergenerational Intimacy 2. Spousal Intimacy
Psychiatric Dysfunction	SCL-90R	1. Global Severity Index
Life Stress Events	SRRS	

CHAPTER IV

ANALYSIS OF THE DATA*

Results

The purpose of the study was to examine the construct validity of instruments that assess the level of differentiation of self, using a clinical and nonclinical sample. It was also the purpose of this study to determine what gaps are present in the differentiation-of-self measures and to elucidate how these gaps could be filled. This chapter provides descriptive statistics of study variables, results of hypothesis tests, and a summary of the findings of this study. The total sample size for the analysis was 112. This is the total number of participants who responded to the surveys. Participants were recruited from a large urban university-based medical center. The clinical sample was adult patients attending outpatient counseling at the behavioral health outpatient department. The nonclinical sample was adults employed in the behavioral health outpatient department. The total sample sizes for the groups were as follows: Clinical group, n = 54 (48%); and nonclinical group, n = 58 (52%). There were a total of 38 males and 46 females in the sample. The majority of the participants (51% of the clinical group and 70% of the nonclinical group) were White. See Table 3 for complete demographic details. All analyses were performed using the Statistical Package for Social Sciences (SPSS Version 16 for Windows). A statistician was utilized throughout the analysis part of the present study.

*Statistical Analyses, interpretations, composition of tables, and some commentary were produced by a statistical consultant.

Descriptive Statistics

Demographics

Age. Participants ranged in age from 16 to 78 years old. The mean average age for participants in this study was 34.11 (*SD* = 13.10). The median was 30 years of age. Demographic information regarding age is provided in Tables 1, and 2. Out of the 112 participants in this study, a total of 89 participants reported their ages; therefore, there were 23 missing values. Independent samples t-tests were performed, in order to examine whether there were mean differences in age by gender and by clinical and nonclinical group. Participants in the nonclinical group were significantly older (*M* = 37.29, *SD* = 14.02) than participants in the clinical group (*M* = 30.24, *SD* = 11.49), $t(83) = -2.842$, $p < .05$. No significant differences in age emerged for participants by gender.

Table 1

Demographic Characteristics: Age by Gender and Group

	Age			
	Mean	SD	N	Percent (%)
Male	35.42	13.87	38	34
Female	33.11	13.10	46	41
Missing Cases			28	25
Clinical	30.24	11.49	37	33
Nonclinical	37.29	14.02	47	42
Missing Cases			28	25
Total (N)			112	

Note: Total number of participants who reported their gender = 84; Total number of responses for Clinical and Nonclinical Group = 84; Total number of participants who reported their age = 89.

Table 2

Demographic Characteristics: Gender by Group

	(N)	Percent (%)
Clinical		
Female	22	41
Male	15	28
Missing Cases	17	31
Total (N)	54	48
Nonclinical		
Female	24	41
Male	23	40
Missing Cases	11	19
Total (N)	58	52
Total (N)	112	

Gender, Race/Ethnicity and Marital Status. Information regarding gender, race/ethnicity, and marital status are provided in Table 3. A series of two-way Pearson's Chi-square analyses were conducted, in order to examine differences on the demographic variables of gender, race/ethnicity and marital status for the clinical and nonclinical groups. No significant differences were found between the clinical and nonclinical groups regarding gender, χ^2 (1, 84) = .59, $p > .05$, Cramér's $V = .08$. Regarding the variable of race/ethnicity, the Pearson's Chi-square comparing the clinical and nonclinical group was significant, χ^2 (8, 84) = 19.94, $p < .05$, Cramér's $V = .49$. This suggests that race/ethnicity significantly differed from chance. In this

sample, African Americans, and possibly Hispanics, had an increased chance of being in the clinical group; and Whites, and possibly Asians, were more likely to be in the nonclinical group. Chi-square analysis comparing participants in the clinical vs. nonclinical group and marital status was not significant, χ^2 (4, 85) = 2.61, p > .05, Cramér's V = .18.

For the characteristic race/ethnicity, there were a total of 50 White respondents, with 15 participants in the clinical group and 35 participants in the nonclinical group. There were a total of 15 African American respondents, with 11 participants in the clinical group and 4 participants in the nonclinical group. There were a total of 5 Asian respondents, with 1 participant in the clinical group and 4 participants in the nonclinical group. There were a total of 9 respondents, with 7 participants in the clinical group and 2 participants in the nonclinical group. Several categories were omitted in the clinical or nonclinical group, due to a lack of participants who responded as belonging to either. In the clinical group, there was 1 Indian, 1 Austrian, 1 Russian, and no British or Native Americans. In the nonclinical group, there was 1 Native American and 1 Russian, and no Indian, Austrian or Russian respondents. There were a total of 32 missing cases, in which there was no response to race/ethnicity.

Table 3

Demographic Characteristics of all Participants who Reported: Gender, Race/Ethnicity and Marital Status Totals and by Clinical vs. Nonclinical Group

	Total (*N*)	Clinical (*%*)	Nonclinical (*%*)
Gender			
Male	39	15(51)	24(49)
Female	49	24(49)	25(51)
Missing cases	24		
Total (N)	112	39(35)	49(44)
Race/Ethnicity			
White	50	15(30)	35(70)
African American	15	11(73)	4(27)
Asian	6	2(33)	4(67)
Hispanic	9	7(78)	2(22)
Missing cases	32		
Total (N)	112	37(33)	47(42)
Marital Status			
Single	35	16(46)	19(54)
Married	24	10(42)	14(58)
Divorced	15	6(40)	9(60)
Widowed	6	4(67)	2(33)
Other	5	1(20)	4(80)
Missing cases	23		
Total (N)	112	37(33)	47(42)

Note: Total number of participants out of 112 who reported their gender = 88. Total number of participants out of 112 who did not report race/ethnicity = 32. Total number of participants who did not report their marital status = 23.

Educational Levels, Partners' Educational Levels and Use of Mental Health Services. Educational levels of participants and their partners are described in Table 4, and results for use of mental health services are shown in Table 5. Two-way Pearson's Chi-square analyses were conducted, in order to examine differences on the demographic variables of educational level for self and for partner, as well as for use of mental health services for the clinical and nonclinical groups. Regarding the variable of educational level - self, the Pearson's Chi-square comparing the clinical and nonclinical group was significant, χ^2 (3, 82) = 70.45, $p < .05$, Cramér's $V = .93$. Similarly, educational level - partner was also significant, χ^2 (3, 50) = 13.17, $p < .05$, Cramér's $V = .51$. The results suggest that both educational level-self and for spouse significantly differed from chance between the participants in the clinical and nonclinical group. Respondents and their partners in the nonclinical group were more likely to have attained a higher education level than those respondents and their partners in the clinical group. No significant differences emerged between the clinical and nonclinical group for use of mental health services, χ^2 (1, 85) = .70, $p > .05$, Cramér's $V = .09$.

Table 4

Educational Levels for Respondents and Their Partners - Total and by Clinical and Nonclinical Group

Educational Level	Total N	Total %	Clinical N	Clinical %	Nonclinical N	Nonclinical %
			Self			
GED	9	8	9	26	0	0
High School	26	23	24	71	2	4
College	24	21	1	3	23	48
Graduate School/Professional	23	21	0	0	23	48
Missing Cases	30	27				
Total (N)	112					

Note: Total number of participants out of 112 who reported their educational level for self = 82. Total number of participants out of 112 who did not report educational level for self = 30 (27%).

			Partner			
GED	9	8	4	19	5	17
High School	16	14	12	57	4	14
College	20	18	5	24	15	52
Graduate School/Professional	5	4	0	0	5	17
Missing Cases	62	56				
Total (N)	112					

Note: Total number of participants out of 112 who reported their educational level for partner = 50. Total number of participants out of 112 who did not report educational level for self = 62 (55%).

Table 5

Use of Mental Health Services – Total and by Clinical and Nonclinical Group

	N	%	Clinical	%	Nonclinical	%
Yes	37	33	18	16	19	17
No	48	43	19	17	29	26
Missing Cases	27	24	17	15	10	9
Total	112	100	54	48	58	52

Note: Total number of participants out of 112 who reported use of mental health services = 85 (76%). Total number of participants out of 112 who did not report use of mental health services = 27 (24%)

Demographic Variables and Differentiation of Self (DSI

A series of Multivariate Analyses of Variance (MANOVA) were performed on the four DSI Subscales: Emotional Reactivity (degree to which a person responds to environmental stimuli with flooding, emotional lability or hypersensitivity (Skowron & Friedlander, 1998), I-Position (reflect a clearly defined sense of self and the ability to thoughtfully adhere to one's convictions when pressured to do otherwise (Skowron & Friedlander, 1998), Emotional Cutoff (reflects feeling threatened by intimacy and feeling excessive vulnerability in relations with others (Skowron & Friedlander, 1998), and Fusion with Others (reflects emotional overinvolvement with others, including triangulation and overidentification with parents (Skowron & Friedlander, 1998). Scores on the DSI range from 1 to 6, with higher scores reflecting greater differentiation of self (Skowron, & Friedlander, 1998). Independent variables examined were gender, race/ethnicity, educational level-self, educational level-partner, and use of mental health services. There were no violations of assumptions of normality, homogeneity of variance, linearity and multicollinearity. A follow-up Analysis of Variance (ANOVA) was conducted to discover the specific differences indicated by the MANOVA. The ANOVA results are summarized in Table 7, and means and standard deviations are reported in Table 8 for the

DSI subscales by educational level – self. The ANOVA on Fusion with Others yielded significance, $F(3, 49) = 3.39$, $p < .05$, partial $\eta 2 = .17$. Participants with a GED scored significantly higher on Fusion with Others ($M = 4.06$, $SD = .94$) compared to participants with a college education ($M = 3.03$, $SD = .75$).

Table 6

MANOVA Results for All Demographic Variables on DSI Subscale Scores

Multivariate Effect	Wilks Lambda	*F*	*p*	*Partial* η^2
Gender	.93	.97	.43	.07
Race/Ethnicity	.62	1.16	.30	.11
Educational Level – Self	.68	1.63	.09	.12
Educational Level – Partner	.64	1.10	.38	.14
Use of Mental Health Services	.93	.91	.47	.07

Table 7

Univariate ANOVA for DSI Subscales and Educational Level of Self

Variable	*F*	*p*	*Effect Size Partial* η^2
Educational Level - Self			
Emotional Reactivity	2.49	0.07	0.13
I-Position	1.53	0.22	0.09
Emotional Cutoff	2.4	0.08	0.13
Fusion with Others	3.39	0.03*	0.17

* $p < .05$

Table 8

Means and Standard Deviations for DSI Subscales on Educational Level of Self

DSI Subscales	Emotional Reactivity	I-Position	Emotional Cutoff	Fusion with Others
Educational Level - Self				
GED	4.20(.91)	3.43(.95)	3.21(.43)	4.06(.94)
High School	3.26(.56)	3.26(.69)	3.59(.71)	3.38(.65)
College	3.44(.83)	3.89(.91)	4.05(.77)	3.03(.75)
Graduate/Professional	3.72(.58)	3.76(.90)	3.82(.53)	3.49(.40)

Demographic Variables and Personal Authority in the Family System–Questionnaire (PAFS-Q)

A series of Multivariate Analyses of Variance (MANOVA) were performed on the eight PAFS-Q subscales: spousal fusion (higher scores = more individuation, spousal intimacy (higher scores = more individuation), spousal intimacy (higher scores = more intimacy), nuclear family triangulation (higher scores = less triangulation), Intergenerational intimidation (higher scores = less intimidation), intergenerational fusion (higher scores = more individuation), intergenerational triangulation (higher scores = less triangulation), Intergenerational intimacy (higher scores = more intimacy), and personal authority (higher scores = more personal authority). The PAFS-Q Independent variables examined were gender, race/ethnicity, educational level - self, educational level - partner and use of mental health services. There were no violations of assumptions of normality, homogeneity of variance, linearity and multicollinearity. The results of the MANOVAs are summarized in Table 9 below.

Table 9

MANOVA Results for Demographic Variables on PAFS-Q Subscale Scores

Multivariate Effect	Wilks Lambda	*F*	*p*	*Partial* η^2
Gender	0.61	0.96	0.51	0.39
Race/Ethnicity	.003	3.1	.01**	0.7
Educational Level – Self	.01	4.43	.01**	.77
Educational Level – Partner	.003	4.92	.01**	.86
Use of Mental Health Services	0.51	1.55	.23	.49

** $p < .01$

The MANOVA models were significant for race/ethnicity (Wilk's $\Lambda = .003$, $F(5, 22) = 3.10$, $p < .01$, partial $\eta 2 = .70$), educational level-self (Wilk's $\Lambda = .01$, $F(3, 21) = 4.43$, $p < .01$, partial $\eta 2 = .77$), and educational level-partner (Wilk's $\Lambda = .003$, $F(3, 21) = 4.92$, $p < .01$, partial $\eta 2 = .86$). Follow-up Analyses of Variance (ANOVA) were conducted to discover the specific differences indicated by the MANOVAs. The ANOVA results are summarized in Table 10 and means and standard deviations are reported in Table 11 for the PAFS-Q subscales by race/ethnicity, educational level–self and educational level–partner. For the independent variable race/ethnicity, the ANOVA on spousal fusion $F(5, 22) = 7.32$, $p < .05$, partial $\eta 2 = .70$, intergenerational fusion $F(5, 22) = 7.55$, $p < .05$, partial $\eta 2 = .70$, intergenerational triangulation $F(5, 22) = 4.05$, $p < .05$, partial $\eta 2 = .56$, intergenerational intimacy $F(5, 22) = 6.15$, $p < .05$, partial $\eta 2 = .66$ and personal authority $F(5, 22) = 3.25$, $p < .05$, partial $\eta 2 = .50$ was significant.

For the independent variable of educational level – self, the ANOVA for spousal fusion $F(3, 21) = 4.40$, $p < .05$, partial $\eta 2 = .44$, spousal intimacy $F(3, 21) = 7.61$, $p < .05$, partial

$\eta 2 = .57$, intergenerational fusion $F(3, 21) = 5.22$, $p < .05$, partial $\eta 2 = .48$, and intergenerational intimacy $F(3, 21) = 6.20$, $p < .05$, partial $\eta 2 = .52$ were significant. On educational level – self, participants with a graduate/professional education scored significantly higher on spousal fusion ($M = 70.17$, SD = 4.92), compared to participants with a high school education ($M = 55.17$, SD = 9.58). For spousal fusion, participants with graduate/professional education ($M = 70.17$, SD = 4.92) and college education ($M = 66.43$, SD = 8.24) scored significantly higher than participants with a GED-level education ($M = 25.00$, SD = 4.24). Similarly, on intergenerational intimacy, participants who reported graduate/professional education (M =97.50, SD = 8.80) and college education ($M = 95.14$, SD = 10.71) scored significantly higher than participants who reported a GED-level education ($M = 42.50$, SD = 2.12).

The linear combination of PAFS-Q subscale scores was significantly affected by educational level – partner. In order to examine specific differences on educational level – partner on the PAFS-Q subscales, follow-up ANOVAs were performed. The ANOVAs for Spousal fusion $F(3, 21) = 3.91$, $p < .05$, partial $\eta 2 = .48$, nuclear family triangulation $F(3, 21) = 3.65$, $p < .05$, partial $\eta 2 = .46$, intergenerational fusion $F(3, 21) = 5.97$, $p < .05$, partial $\eta 2 = .58$, intergenerational intimacy $F(3, 21) = 9.8$, $p < .05$, partial $\eta 2 = .69$ and personal authority $F(3, 21) = 7.19$, $p < .05$, partial $\eta 2 = .62$. See Table 12 for means and standard deviations.

Table 10

Univariate ANOVAs for Significant Demographic Variables and Personal Authority in the Family System (PAFS-Q) Subscales

Variable	*F*	*p*	Partial η^2
Race/Ethnicity			
Spousal Fusion	7.32	0.01**	0.7
Spousal Intimacy	1.54	0.23	0.32
Nuclear Family Triangulation	1.12	0.39	0.26
Intergenerational Intimidation	2.43	0.08	.43
Intergenerational Fusion	7.55	0.01**	0.7
Intergenerational Triangulation	4.05	0.01**	0.56
Intergenerational Intimacy	6.15	0.01**	0.66
Personal Authority	3.25	0.03*	0.5
Educational Level-Self			
Spousal Fusion	4.4	0.02*	0.44
Spousal Intimacy	7.61	0.01**	0.57
Nuclear Family Triangulation	1.12	0.37	0.16
Intergenerational Intimidation	2.12	0.14	0.27
Intergenerational Fusion	5.22	0.01**	0.48
Intergenerational Triangulation	0.31	0.82	0.05
Intergenerational Intimacy	6.2	0.01**	0.52
Personal Authority	2.9	0.07	0.34
Educational Level-Partner			
Spousal Fusion	3.91	0.03*	0.48
Spousal Intimacy	1.3	0.32	0.23
Nuclear Family Triangulation	3.65	0.04*	0.46
Intergenerational Intimidation	1.26	0.33	0.23
Intergenerational Fusion	5.97	0.01**	0.58
Intergenerational Triangulation	0.88	0.48	0.17
Intergenerational Intimacy	9.8	0.01**	0.69
Personal Authority	7.19	0.01**	0.62

*$p < .05$
**$p < .01$

Table 11

Means and Standard Deviations for Personal Authority in the Family System Questionnaire (PAFS-Q) Subscale by Race/Ethnicity, Educational Level-Self and Educational Level-Partner

PAFS-Q Scales	Spousal Fusion	Spousal Intimacy	Nuclear Family Triangulation	Intergenerational Intimacy	Intergenerational Fusion	Intergenerational Triangulation
Race/Ethnicity						
White	68.40(7.44)	43.20(4.73)	39.00(7.10)	97.50(9.54)	34.00(5.03)	34.60(5.66)
African-American	58.40(3.29)	35.20(11.82)	31.20(3.96)	53.20(21.67)	21.80(4.15)	36.40(4.44)
Asian	73.00(-)	43.00(-)	41.00(-)	103.00(-)	37.00(-)	38.00(-)
Hispanic	50.00(2.94)	34.50(8.81)	35.50(8.19)	82.00(19.27)	22.25(4.11)	27.50(4.51)
Educational Level-Self						
GED	60.00(1.41)	25.00(4.24)*	30.50(3.54)	42.50(2.12)*	20.00(1.41)	33.50(6.36)
High School	55.17(9.58)*	55.17(9.58)	34.83(7.99)	76.83(28.63)	23.83(7.49)	30.83(6.24)
College	66.43(8.24)	66.43(8.24)*	43.29(5.79)	95.14(10.71)*	32.71(5.61)	33.14(6.31)
Graduate/Professional	70.17(4.92)*	70.17(4.92)*	44.67(3.20)	97.50(8.80)*	33.83(5.15)	34.83(9.30)
Educational Level-Partner						
GED	73.00(.00)	43.00(.00)	41.00(.00)	103.00(.00)	37.00(.00)	38.00(.00)
High School	55.43(4.20)	34.29(12.85)	32.71(7.25)	58.00(21.02)	22.43(5.22)	31.86(6.14)
College	66.43(10.39)	43.00(4.36)	40.86(1.21)	98.29(7.54)	32.43(6.00)	31.29(8.96)
Graduate/Professional	61.00(-)	45.00(-)	34.00(-)	83.00(-)	25.00(-)	41.00(-)

* $p < .05$

Demographic Variables and Symptom Checklist-90-R (SCL-90-R) Subscales and Global Severity Index (GSI) Score

A series of Multivariate Analyses of Variance (MANOVA) were performed on the eight SCL-90-R subscales (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobia, paranoia, and psychoticism), and on the GSI scale. Independent variables examined were gender, race/ethnicity, educational level-of-self, educational level of partner, and use of mental-health services. There were no violations of assumptions of normality, homogeneity of variance, linearity and multicollinearity. The results of the MANOVAs are summarized in Table 12 below. The MANOVA model for the linear combination of SCL-90-R scores was significantly affected by educational level-self, Wilk's Λ = .38, $F(3, 79) = 2.46$, $p < .05$, partial $\eta 2 = .27$. Follow-up ANOVA results suggested that all subscales and the GSI Scores on the SCL-90-R were significant (see Table 13 for all SCL-90-R subscales (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobia, paranoia, and psychoticism) and GSI scores). Participants with a GED or high school level of education reported significantly higher symptoms, compared to participants with a college or graduate/level education (see Table 14 for means and standard deviations).

Table 12

MANOVA Results for Demographic Variables on Symptom Checklist-90-R (SCL-90-R) Subscales and Global Severity Index (GSI) Score

Multivariate Effect	Wilks Lambda	*F*	*p*	Partial η^2
Gender	0.81	1.59	0.13	0.19
Race/Ethnicity	0.38	0.84	0.83	0.12
Educational Level - Self	0.38	2.46	0.01**	0.27
Educational Level - Partner	0.47	1.07	0.38	0.23
Use of Mental Health Services	0.87	1.04	0.42	0.13

** $p < .01$

Table 13

Univariate ANOVAs for Demographic Variables on Symptom Checklist-90-R (SCL-90-R) Subscales and Global Severity Index (GSI) Score

Variable	*F*	*p*	Partial η^2
Educational Level – Self			
Somatization	15.39	0.01**	0.38
Obsessive-Compulsive	8.32	0.01**	0.25
Interpersonal Sensitivity	14.36	0.01**	0.37
Depression	16.85	0.01**	0.4
Anxiety	14.34	0.01**	0.37
Hostility	16.56	0.01**	0.4
Phobia	8.7	0.01**	0.26
Paranoia	15.84	0.01**	0.39
Psychoticism	14.66	0.01**	0.37
GSI	16.22	0.01**	0.39

** $p < .01$

Table 14

Means and Standard Deviations for Demographic Variables for Symptom Checklist SCL-90-R

SCL-90-R Scale/Subscale	GED	High School	College	Graduate/Professional
Somatization	1.80(1.33)	1.72(.93)	.49(.34)	.65(.57)
Obsessive-Compulsive	1.72(1.37)	1.84(.89)	.89(.67)	.86(.63)
Interpersonal Sensitivity	1.78(1.36)	1.98(.90)	.67(.54)	.85(.60)
Depression	2.03(1.25)	2.02(1.03)	.77(.43)	.70(.50)
Anxiety	1.76(1.48)	1.86(1.13)	.59(.44)	.52(.43)
Hostility	1.90(1.35)	1.74(1.01)	.51(.45)	.53(.40)
Phobic Anxiety	1.58(1.60)	1.59(1.14)	.57(.42)	.52(.52)
Paranoia	2.11(1.35)	1.86(.88)	.65(.55)	.79(.52)
Psychoticism	1.89(1.48)	1.62(1.10)	.44(.39)	.42(.38)
Global Severity Index (GSI)	1.83(1.32)	1.83(.93)	.63(.36)	.66(.44)

Demographic Variables and Social Readjustment Rating Scale (SRRS)

Analysis of Variance (ANOVAs) was performed on the Social Readjustment Rating Scale (SRRS) for the demographic independent variables of gender, race/ethnicity, educational level – self, educational level – partner and use of mental-health services. There were no violations of assumptions of normality and homogeneity of variance. The results of the ANOVAs are summarized in Table 15 below. Means and standard deviations and the results of post-hoc analyses using the Bonferroni correction are reported in Table 16 below. A significant ANOVA emerged for educational level – self and the Social Readjustment Rating Scale (SRRS) $F(3, 81) = 6.46$, $p < .05$. Participants with a high-school-level education reported significantly higher scores on the SRRS ($M = 219.96$, $SD = 128.55$) compared to participants with college ($M = 140.38$, $SD = 74.73$) or graduate/professional level ($M = 117.92$, $SD = 38.47$) education (see Table 16).

Table 15

ANOVA Results for Demographic Variables on Social Readjustment Rating Scale (SRRS)

ANOVA	*F*	*p*
Gender	1.96	.16
Race/Ethnicity	.90	.52
Educational Level - Self	.50	0.01**
Educational Level - Partner	1.69	.18
Use of Mental Health Services	0.09	0.76

* $p < .05$
** $p < .01$

Table 16

Means and Standard Deviations for Demographic Variables for Social Readjustment Rating Scale (SRRS)

Variable	Holmes-Rahe Stress Test
Race/Ethnicity	
White	155.76(79.11)
African-American	173.60(73.59)
Asian	132.80(36.73)
Hispanic	230.00(191.74)
Missing Cases	
Total Cases	
Educational Level - Self	
GED	176.57(50.93)
High School	219.96(128.55)
College	140.38(74.73)
Graduate/ Professional	116.82(40.05)
Missing Cases	
Total Cases	
Educational Level - Partner	
GED	217.50(202.99)
High School	181.80(63.81)
College	139.57(64.65)
Graduate/ Professional	221.80(104.32)
Missing Cases	

*p<.05

Demographic Variables and the State Trait Anxiety Inventory (STAI)

A series of Analyses of Variance (ANOVAs) were performed on the State Trait Anxiety Inventory (STAI) for the demographic independent variables of gender, race/ethnicity, educational level – self, educational level – partner, and use of mental health services. There were no violations of assumptions of normality and homogeneity of variance. The results of the ANOVAs are summarized in Table 17 below. Means and standard deviations and the results of post-hoc analyses using the Bonferroni correction are reported in Table 18 below. A significant ANOVA emerged for STAI and ethnicity $F(8, 75) = 2.07$, $p < .05$. Post-hoc tests could not be performed on STAI and ethnicity because there were fewer than two cases for ethnic group categories. Other post-hoc comparisons did not reveal significant differences. For educational level – partner, a significant ANOVA emerged for the State Trait Anxiety Inventory (STAI) $F(3, 47) = 3.93$, $p < .05$. Participants with a GED-level education scored significantly higher on the State Trait Anxiety Inventory (STAI) ($M = 50.70$, $SD = 4.42$), compared to participants with graduate/professional level ($M = 41.20$, $SD = 3.11$) education (see Table 18).

Table 17

ANOVA Results for Demographic Variables on the State Trait Anxiety Inventory (STAI)

Variable	*F*	*p*
Gender	.301	0.59
Race/Ethnicity	2.07	0.04*
Educational Level - Self	2.50	0.07
Educational Level - Partner	3.93	0.01**
Use of Mental Health Services	0.15	0.7

* $p < .05$
** $p < .01$

Table 18

Means and Standard Deviations for Demographic Variables and State-Trait Anxiety Inventory (STAI)

Variable	State Trait Anxiety Inventory	N	%
RaceEthnicity			
White	49.24(5.07)	50	45
African American	43.64(6.94)	15	13
Asian	44.80(4.82)	5	4
Hispanic	44.90(6.02)	9	8
Missing Cases		33	30
Educational Level-Self			
GED	45.00(4.43)	9	8
High School	45.86(5.97)	26	23
College	49.04(5.67)	24	21
Graduate/ Professional	49.64(4.90)	23	21
Missing Cases		30	26
Educational Level-Partner			
GED	50.70(4.42)**	9	8
High School	44.53(7.24)	16	14
College	46.76(5.23)	20	18
Graduate/ Professional	41.20(3.11)**	5	4
Missing cases		62	56

* $p < .05$

Comparison of Measurement Tools

Multivariate Analyses of Variance (MANOVA) were conducted in order to explore differences between clinical and nonclinical groups on the dependent variables of interest. The independent variables for the analyses were clinical and nonclinical group membership. The dependent variables were Differentiation of Self Inventory (DSI) subscales, Personal Authority in the Family System – Questionnaire (PAFS-Q) subscales, Symptom Checklist List-90-R (SCL-90-R) subscales and Social Readjustment Rating Scale (SRRS), and the State Trait Anxiety Inventory (STAI) scores. There were no violations of assumptions of normality, homogeneity of variance, linearity and multicollinearity. The linear combination of scores formed by the Differentiation of Self Inventory (DSI) subscales, Personal Authority in the Family System – Questionnaire (PAFS-Q) subscales, Symptom Checklist-90-R (SCL-90-R) scales and Social Readjustment Rating Scale (SRRS) were significantly affected by clinical and nonclinical group membership. The MANOVA models for Differentiation of self Inventory (DSI) (Wilk's Λ = .74, $F(1, 66) = 5.47$, $p<.05$, partial $\eta 2 = .26$), Personal authority in the Family System – Questionnaire (PAFS-Q) (Wilk's $\Lambda = .29$, $F(1, 66) = 5.62$, $p <.05$, partial $\eta 2 = 71$), Symptom Checklist – 90- Revised (SCL-90-R) (Wilk's $\Lambda = .38$, $F(1, 66) = 14.48$, $p < .05$, partial $\eta 2 = .62$) and Social Readjustment Rating Scale (SRRS), and State Trait Anxiety Inventory (STAI) scales (Wilk's $\Lambda = .66$, $F(1, 66) = 25.8$, $p < .05$, partial $\eta 2 = .34$) (see Table 19).

Table 19

MANOVA Results for Clinical and Nonclinical Groups on Differentiation of Self Inventory (DSI), Personal Authority in the Family System – Questionnaire (PAFS-Q), Symptom Checklist-90-R (SC-90-R), and the Social Readjustment Rating Scale (SRRS)

Multivariate Effect	Wilks	*F*	*p*	Effect
Differentiation of Self (DSI)	0.74	5.47	0.01**	0.26
Personal Authority in the Family System – Questionnaire (PAFS-Q)	0.29	5.62	0.01**	0.71
Symptom Checklist-90-R (SCL-90-R)	0.38	14.48	0.01**	0.62
Social Readjustment Rating Scale (SRRS)	0.66	25.8	0.01**	0.34

$^{**}p < .01$

Follow-up Analyses of Variance (ANOVA) were conducted in order to discover specific differences indicated by the MANOVA. Regarding differentiation of self, emotional reactivity $F(1, 66) = 9.36$, $p < .05$, partial $\eta 2 = .13$, I-position $F(1, 66) = 10.61$, $p < .05$, partial $\eta 2 = .14$, and emotional cutoff $F(1, 66) = 18.62$, $p < .05$, partial $\eta 2 = .23$ were significant (see Table 20).

Table 20

Univariate ANOVAs for Clinical and Nonclinical Groups on Differentiation of Self (DSI), Personal Authority in the Family System – Questionnaire (PAFS-Q), Symptom Checklist-90-R (SCL-90-R), Social Readjustment Rating Scale (SRRS) and the State-Trait Anxiety Inventory (STAI)

Variable	*F*	*p*	Partial η^2
Differentiation of Self			
Emotional Reactivity	9.36	0.01**	0.13
I-Position	10.61	0.01**	0.14
Emotional Cutoff	18.82	0.01**	0.23
Fusion with Others	1.63	0.21	0.03
Personal Authority in the Family System – Questionnaire			
Spousal Fusion	14.01	0.01**	0.36
Spousal Intimacy	24.86	0.01**	0.5
Nuclear Family Triangulation	10.85	0.01**	0.3
Intergenerational Intimidation	0.03	0.88	0.01
Intergenerational Fusion	25.43	0.01**	0.5
Intergenerational Triangulation	0.01	0.97	0.01
Intergenerational Intimacy	31.36	0.01**	0.56
Personal Authority	0.08	0.79	0.03
Symptom Checklist-90-R			
Somatization	99.52	0.01**	0.51
Obsessive-Compulsive	70.77	0.01**	0.42
Interpersonal Sensitivity	118.34	0.01**	0.55
Depression	111.52	0.01**	0.54
Anxiety	117.9	0.01**	0.55
Hostility	103.05	0.01**	0.52
Phobia	68.37	0.01**	0.41
Paranoia	126.12	0.01**	0.57
Psychoticism	104.54	0.01**	0.52
GSI	124.02	0.01**	0.56
Dysfunction			
SRRS	27.75	0.01**	0.22
STAI	25.69	0.01**	0.2

**$p < .01$

Means and standard deviations for Differentiation of Self Inventory (DSI) scores are reported in Table 21. Participants in the nonclinical group scored significantly higher on emotional reactivity (M = 3.82, SD = .73), compared to participants in the clinical group (M = 3.20, SD = .92). The nonclinical group also scored significantly higher on I-Position (*M* = 3.97, SD = .80), compared to participants in the clinical group (*M* = 3.32, SD = .78). Higher scores for participants in the nonclinical group were also significant for the nonclinical group (*M*=4.09, SD =.73), compared to the clinical group (*M* =3.35, SD =.59) on emotional cutoff.

Table 21

Means, Standard Deviations, Minimum and Maximum Values Aggregated by Study Group for Differentiation of Self Inventory (DSI) Scale and Subscale Scores

	Clinical				Nonclinical			
Variable	*M*	*SD*	*Min*	*Max*	*M*	*SD*	*Min*	*Max*
DSI Subscales								
Emotional Reactivity	3.20	.92	1.36	5.18	3.82*	.73	2.00	5.09
I Position	3.32	.78	1.91	5.09	3.97*	.80	2.09	5.64
Emotional Cutoff	3.35	.59	2.50	4.58	4.09*	.73	2.67	5.33
Fusion with Others	3.46	.71	2.44	5.22	3.25	.61	2.00	4.33
DSI Total Score	3.31	.50	2.35	4.28	3.87	.52	2.58	4.72

Note: Total number of participants in the clinical group = 27. Total number of participants in the nonclinical group = 39.
* $p < .05$

In order to explore specific differences on the Personal Authority in the Family System Questionnaire (PAFS-Q), a follow-up ANOVA was conducted on the PAFS-Q subscales: spousal fusion, spousal intimacy, nuclear family triangulation, intergenerational intimidation, intergenerational fusion, intergenerational triangulation, intergenerational intimacy and personal

authority. The ANOVA for spousal fusion $F(1, 27) = 14.01$, $p < .05$, partial $\eta 2 = .36$, spousal intimacy ($F(1, 27) = 24.86$, $p < .05$, partial $\eta 2 = .50$), nuclear family triangulation $F(1, 27) = 10.85$, $p < .05$, partial $\eta 2 = .30$, intergenerational fusion $F(1, 27) = 25.43$, $p < .05$, partial $\eta 2 = .50$, and intergenerational intimacy $F(1, 27) = 31.36$, $p < .05$, partial $\eta 2 = .56$. Means and standard deviations are reported in Table 23. For spousal fusion, participants in the nonclinical group scored significantly higher ($M = 67.00$, SD = 6.78), compared to the clinical group (M=57.18, SD = 6.57). Participants in the nonclinical group scored significantly higher on spousal intimacy ($M = 45.13$, SD = 4.98), compared to those in the clinical group ($M = 30.36$, SD = 10.28). Nuclear family triangulation scores were statistically higher for nonclinical group participants ($M = 38.75$, SD = 5.72), compared to clinical group participants ($M = 31.36$, SD = 5.73). On Intergenerational fusion, participants in the nonclinical group scored higher ($M=32.69$, SD = 4.83) than clinical group participants ($M=21.91$, SD = 6.28).

Table 22

Means, Standard Deviations, Minimum and Maximum Values Aggregated by Study Group for Personal Authority in the Family System-Questionnaire (PAFS-Q) Subscale Scores

	Clinical				Nonclinical			
Variable	*M*	*SD*	*Min*	*Max*	*M*	*SD*	*Min*	*Max*
Spousal Fusion	57.18	6.57	50	73	67.00*	6.78	56	73
Spousal Intimacy	30.36	10.28	18	50	45.13*	4.98	36	55
Nuclear Family Triangulation	31.36	5.73	24	41	38.75*	5.72	19	44
Intergenerational Intimacy	63.00	21.80	30	103	99.13	11.63	77	119
Intergenerational Fusion	21.91	6.28	14	37	32.69*	4.83	24	37
Intergenerational Triangulation	32.10	5.84	22	38	32.19	7.48	21	41
Intergenerational Intimacy	103.09	26.55	52	137	101.75*	17.49	71	131
Personal Authority	39.36	7.21	28	49	38.56	7.53	32	53

Note: Total number of participants in the clinical group = 11. Total number of participants in the nonclinical group = 16.
*$p<.05$

Finally, participants in the nonclinical group scored significantly lower on intergenerational intimacy (M=101.75, SD = 17.49), compared to clinical participants (M =103.09, SD = 26.55).

The results of follow-up ANOVAs on the Symptom Checklist – 90- R scales (SCL-90-R) and subscales are summarized in Table 23. On the Symptom Checklist – 90- R scales (SCL-90-

R) the ANOVAs for all of the subscales and scales were significant. For all of the subscales (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychotocism) participants in the nonclinical group scored significantly lower than participants in the clinical group. However, on the Global Severity Index (GSI) participants in the nonclinical group scored significantly higher (M = .59, SD - .36), compared to participants in the clinical group (M = .19, SD = .97).

Table 23

Means, Standard Deviations, Minimum and Maximum Values Aggregated by Study Group for Symptom Checklist-90-R (SCL-90-R) Subscales and Global Severity Index (GSI) Score

	Clinical				Nonclinical			
Variable	*M*	*SD*	*Min*	*Max*	*M*	*SD*	*Min*	*Max*
SCL-90-R Subscales								
Somatization	2.08	1.01	.09	3.50	.55*	.44	.00	2.00
Obsessive-Compulsive	2.23	1.08	.11	3.80	.80*	.57	.00	2.70
Interpersonal Sensitivity	2.29	.93	.34	3.56	.68*	.49	.00	2.23
Depression	2.41	1.10	.16	4.00	.68*	.45	.00	1.77
Anxiety	2.23	1.10	.00	3.70	.48*	.39	.00	1.50
Hostility	2.26	1.20	.00	4.00	.48*	.41	.00	1.67
Phobic Anxiety	1.87	1.13	.00	3.72	.49*	.43	.00	1.86
Paranoid Ideation	2.16	.88	.00	3.67	.63*	.44	.00	1.84
Psychoticism	1.99	1.05	.00	3.90	.41*	.37	.00	1.30
Global Severity Index (GSI)	.19	.97	.17	3.53	.59*	.36	.12	1.73

* $p < .05$

In order to discover the specific differences indicated by the MANOVA, follow-up ANOVAs were conducted on the Social Readjustment Rating Scale (SRRS) and State Trait Anxiety Inventory (STAI). The ANOVAs for the Social Readjustment Rating Scale (SRRS) $F(1, 27) = 27.75$, $p < .05$, partial $\eta 2 = .22$ and State Trait Anxiety Inventory (STAI) $F(1, 27) = 25.69$, $p < .05$, partial $\eta 2 = .20$ were significant (see Table 25). Participants in the clinical group scored significantly higher on the Social Readjustment Rating Scale (SRRS) ($M = 288.72$, $SD = 157.93$) compared to participants in the nonclinical group ($M = 156.35$, $SD = 91.62$). Participants in the nonclinical group scored significantly higher on the State Trait Anxiety Inventory (STAI) ($M = 50.35$, $SD = 5.47$) compared to participants in the clinical group ($M = 45.04$, $SD = 5.02$).

Table 24

Means, Standard Deviations, Minimum and Maximum Values Aggregated by Study Group for Holmes-Rahe Stress Test (SRRS) and the State Trait Anxiety Inventory (STAI)

	Clinical				Nonclinical			
Variable	*M*	*SD*	*Min*	*Max*	*M*	*SD*	*Min*	*Max*
Social Readjustment Rating Scale (SRRS)	288.72	157.93	75	720	156.35*	91.62	44	409
State-Trait Inventory (STAI)	45.04	5.02	31	52	50.35*	5.47	38	59

* $p < .05$

Scale and Subscale Reliability Analyses

Reliability analyses were performed for all scales and subscales in this study. Specifically, reliability, as measured by Cronbach's alphas, were calculated for DSI subscales (emotional reactivity, I-position, emotional cutoff, and fusion with others), PAFS-Q subscales (spousal intimacy, spousal fusion, nuclear family triangulation, integenerational intimacy, intergenerational fusion, intergenerational triangulation, intergenerational intimidation, and personal authority), Symptom Checklist -90 (SCL-90-R) subscales (somatization, obsessive compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobia, paranoid ideation, and psychoticism), and on the State Trait Anxiety Inventory – (STAI). Cronbach's alphas are reported in Table 26.

Originally, Skowron and Friedlander (1998) reported the following internal consistency estimates for the DSI scale and subscales: .88 (DSI total score), .88 (emotional reactivity), .85 (I-position), .79 (emotional cutoff), and .70 (fusion with others). The present study yielded comparable internal consistency estimates. The Cronbach's alphas were as follows: .83 (DSI total score), .78 (emotional reactivity), .78 (I-position), .68 (emotional cutoff) and .59 (fusion with others). See Table 26.

Regarding the Personal Authority in the Family System–Questionnaire (PAFS-Q), Bray et al. (1987) reported Cronbach's alphas as follows: .94 (spousal fusion-individuation), .75 (intergenerational fusion-individuation), .96 (spousal intimacy), .89 (intergenerational intimacy), .90 (nuclear family triangulation), .87 (intergenerational triangulation), .83 (intergenerational intimidation) and .83 (personal authority). In the present study, the internal consistency estimates were: .64 (spousal fusion – individuation), .86 (intergenerational fusion –

individuation), .65 (nuclear family triangulation), .67 (intergenerational triangulation), .93 (intergenerational intimidation), and.86 (personal authority). See Table 26.

On the Symptom Checklist – 90 – R (SCL-90-R), Derogatis, Rickels, and Rock (1976) reported reliability for the SCL-90-R in a sample of "symptomatic volunteers" (p. 284). Horowitz, Rosenberg, Baer, Ureno and Villasenor (1988) obtained reliability estimates in a sample of psychiatric outpatients on the SCL-90-R subscales. Cronbach alphas obtained by Derogatis et al. (1976) for the symptomatic sample of volunteers were : .86 (somatization), .86 (obsessive-compulsive), .86 (interpersonal sensitivity), .90 (depression), .85 (anxiety), .84 (hostility), .82 (phobic anxiety), .80 (paranoid ideation), and .77 (psychoticism). For the psychiatric outpatient sample, reliability statistics were reported as follows: .88 (somatization), .87 (obsessive-compulsive), .84 (interpersonal sensitivity), .90 (depression), .88 (anxiety), .85 (hostility), .89 (phobic anxiety), .79 (paranoid ideation), and .80 (psychoticism) (Horowitz et al., 1988). In the present study, Cronbach alphas were: .95 (somatization), .94 (obsessive-compulsive), .94 (interpersonal sensitivity), .97 (depression), .96 (anxiety), .96 (hostility), .94 (phobic anxiety), .88 (paranoid ideation), and .94 (psychoticism). On the State Trait Anxiety Inventory (Spielberger, Gorsuch and Lushene (1983) reported the Cronbach Alpha's estimate as .89. In the present study, the internal consistency estimate was .78 (see Table 25).

Table 25

Scale and Subscale Cronbach Alphas for Internal Consistency

Scale/Subscale	Chronbach Alphas		
Sample	Current Sample	Normative sample	Psychiatric Outpatient
Differentiation of Self Scale (DSI)	.83	.88	
DSI-Emotional Reactivity	.78	.88	
DSI-I Position	.78	.85	
DSI-Emotional Cutoff	.68	.79	
DSI-Fusion with Others	.59	.70	
Personal Authority in the Family System Questionnaire – (PAFS-Q)			
Spousal Intimacy	.97	.96	
Spousal Fusion-Individuation	.64	.94	
Nuclear Family Triangulation	.65	.90	
Intergenerational Intimacy	.98	.89	
Intergenerational Fusion-Individuation	.86	.75	
Intergenerational Triangulation	.67	.87	
Intergenerational Intimidation	.93	.83	
Personal Authority	.86	.83	
Symptom Checklist-90-R (SCL-90-R)		Derogatis, et al. (1976)	Horowitz, et al (1988)
Somatization	.95	.86	.88
Obsessive-Compulsive	.94	.86	.87
Interpersonal Sensitivity	.94	.86	.84
Depression	.97	.90	.90
Anxiety	.96	.85	.88
Hostility	.96	.84	.85
Phobic Anxiety	.94	.82	.89
Paranoid Ideation	.88	.80	.79
Psychoticism	.94	.77	.80
State Trait Anxiety Inventory	.78	.89	

Analyses of Hypotheses

In Hypothesis 1, it was predicted that married adults with higher levels of differentiation of self would show evidence of lower levels of anxiety, triangulation, spousal fusion, dysfunction, and life-stress events and higher levels of intimacy than married adults with lower levels of differentiation of self. A one-way MANOVA was conducted in order to examine the differences between married adults with high levels of differentiation of self and married adults with low levels of differentiation of self on eight dependent variables: anxiety, nuclear family triangulation, intergenerational triangulation, spousal fusion/individuation, spousal intimacy, intergenerational intimacy, dysfunction, and life stress events. Differentiation of self was operationally defined by scores on the Differentiation of Self Inventory (DSI) (Skowron & Friedlander, 1998), and on the Personal Authority in the Family System Questionnaire (PAFS-Q; Bray et al., 1984). Differentiation of self scores range from 1 to 6, with higher scores indicating higher differentiation of self (Skowron & Friedlander, 1998). Subscales of the DSI include Emotional Cutoff, Fusion with Others, "I-Position," and Emotional Reactivity. Differentiation of self was also measured by scores on three subscales of the PAFS-Q; Intergenerational Fusion/Individuation (INFUS), Intergenerational Intimidation (INTIM), and Personal Authority (PERAUT) scales. Before conducting the statistical analyses, data were screened for accuracy of input, missing data, normality and outliers. According to Tabachnick and Fidel (2007), a variable that contains 5% or more of missing values should be addressed statistically. A significant amount of missing cases can result in biased and inaccurate conclusions, as well as in loss of statistical power. The following variables contained missing values that exceeded 5% of cases: nuclear family triangulation (86 valid responses; 26 missing cases or 23%) , spousal

fusion/individuation (84 valid cases; 28 missing cases or 25%), spousal intimacy (99 valid cases; 13 missing cases or 12%), intergenerational intimacy (92 valid cases; 20 missing cases or 18%), dysfunction (101 valid cases; 11 missing cases or 9%), and differentiation of self scores (70 valid cases; 42 missing cases or 38%). The missing data in these cases stemmed from incomplete or "blank" responses on the self-report measures described above. Missing data can distort results, may result in biased and inaccurate conclusions, and directly reduces statistical power, given that statistical power is contingent upon sample size. There are many strategies for dealing with missing values. In order to perform the one-way MANOVA, to address the significant amount of missing values and to provide more accurate results, the linear regression approach to estimate missing cases was selected. This approach involves estimating missing values through substitution of the linear regression trend value for that point (missing values were replaced with their predicted values). This approach is conservative and objective, and ensures that the predicted values stay within the parameters of the existing data points. No significant univariate or multivariate outliers emerged as measured by inspection of regression residuals and Mahalanobis distance values.

The results of the one-way MANOVA revealed a significant multivariate main effect for group, Wilk's $\Lambda = .06$, $F(24, 47) = 3.28$, $p < .01$, partial $\eta = .61$. The multivariate partial eta squared indicates that 61% of multivariate variance of the dependent variables is associated with the group factor. Table 27 provides the Univariate F tests conducted to discover the specific differences indicated by the MANOVA. Table 27 contains the means and the standard deviations on the dependent variables for the two groups.

Analyses of Variance (ANOVAs) on each dependent variable were conducted to discover the specific differences indicated by the MANOVA. The ANOVA on the anxiety scores State

Trait Anxiety Inventory (STAI) yielded significance, $F(3, 23) = 3.04$, $p < .04$, partial $\eta = .28$. The ANOVA on the intergenerational triangulation scores also showed significance, $F(3, 23) = 3.42$, $p < .03$, partial $\eta = .31$. The ANOVA on the psychiatric dysfunction score Global Symptom Index, although it did not reach statistical significance ($p < .09$). No other significant ANOVAs emerged (see Table 28). Regarding State Trait Anxiety Inventory (STAI), contrary to theory, participants with lower differentiation of self (Group 1) reported significantly lower anxiety levels ($M = 43.17$, SD = 3.43) compared to participants with higher differentiation of self (group 3) ($M = 51$, SD =2.52). Participants in Groups 1 and 2 were married adults with low levels of differentiation of self. Participants in Groups 3 and 4 were married adults with higher levels of differentiation of self. On intergenerational triangulation, as expected, participants with lower differentiation (Group 1) reported more triangulation (higher scores = less triangulation; lower scores – higher triangulation) ($M = 28.67$, SD = 9.48), compared to participants with higher differentiation of self (group 3) ($M = 38.29$, SD = 5.22). The ANOVA on Global Symptom Inventory scores was significant, $F(1, 38) = 56.89$, $p < .01$, partial $\eta = .60$. While significance was reached on the ANOVA utilizing the Bonferroni correction, inspection of the differences between Groups 1, 2, 3, and 4 showed no differences. Participants in the clinical group scored significantly lower on spousal intimacy ($M = 27.50$, SD = 8.53), compared to nonclinical samples (M = 39.55, SD = 11.58). The ANOVA on Spousal Intimacy was significant, $F(1, 38) = 14.04$, $p < 01$, partial $\eta = .27$. While significance was reached on the ANOVA utilizing the Bonferroni correction, inspection of the differences between Groups 1, 2, 3, and 4 showed no differences. The ANOVA on Intergenerational Triangulation was not significant, $F(1, 38) = .58$, $p > .10$, partial $\eta = .02$.

Table 26

Univariate ANOVAs on the Dependent Variables for Married Adults with High vs. Low Differentiation of Self

PAFS – Q Subscales			
Nuclear Family Triangulation	1.01	.41	.12
Spousal Fusion	1.71	.19	.18
Spousal Intimacy	1.73	.19	.18
Intergenerational Intimacy	1.14	.35	.13
Intergenerational Triangulation	3.42	.03*	.31
Social Readjustment Rating Scale	1.25	.35	.13
State Trait Anxiety Inventory	3.04	.04*	.28
Global Symptom Inventory	2.49	.09	.25

Note: Participants in Groups 1 and 2 are married adults with low levels of differentiation of self. Participants in Groups 3 and 4 were married adults with high levels of differentiation of self.
Note: PAFS – Q = Personal Authority in the Family System Questionnaire.
* $p < .05$

Table 27

Means and Standard Deviations on the Dependent Variables Intergenerational Triangulation, Global Symptom Inventory and State-Trait Anxiety Inventory for Married Adults with High vs. Low Differentiation of Self

	Group 1		Group 2		Group 3		Group 4	
Dependent Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Spousal Intimacy	35.97	10.34	31.71	12.43	33.09	11.09	43.43	7.59
Global Symptom Index	1.14	0.71	1.71	1.18	1.06	0.68	0.56	0.35
State Trait Anxiety Inventory	43.17*	3.43	48.86	2.41	51*	2.52	48.29	8.12

Note: Groups refer to quartiles of groups where group 1 = first quartile, group 2 = second quartile, group 3 = third quartile, group 4= fourth quartile.
Note 2: Participants in Groups 1 and 2 were married adults with low levels of differentiation of self. Participants in Groups 3 and 4 were married adults with high levels of differentiation of self.
Note 3: * significant group difference
$* p < .05$

In Hypothesis 2, it was predicted that clinical samples will demonstrate higher levels of anxiety, triangulation, spousal fusion, dysfunction and life-stress events and lower levels of differentiation of self, and intimacy than nonclinical samples. A one-way MANOVA was conducted, in order to examine differences between clinical and nonclinical samples on eight dependent variables: differentiation of self score, trait anxiety, nuclear family triangulation, intergenerational triangulation, spousal fusion, spousal intimacy, dysfunction and life stress. The results of the one-way MANOVA revealed a significant multivariate main effect for group, Wilk's $\Lambda = .21$, $F(8, 31) = 14.28$, $p < .01$, partial $\eta = .79$.

Analyses of Variance (ANOVA) on each dependent variable were conducted as follow-up tests to the MANOVA. Consistent with predictions, participants in the clinical group had

significantly lower levels of differentiation of self (M = 1.95, SD =1.10), compared to participants in the nonclinical group (M = 3.10, SD = .85). The ANOVA on the Differentiation of Self (DSI) scale total score was significant, $F(1, 38) = 13.68$, $p < .01$, partial $\eta = .27$. Contrary to the proposed hypothesis, clinical samples had significantly lower trait anxiety (M = 43.50, SD = 5.34), compared to nonclinical samples (M = 50.50, SD = 5.55). The ANOVA on Trait Anxiety scores was significant, $F(1, 38) = 16.54$, $p < .01$, partial $\eta = .30$. Clinical samples scored significantly higher on life-stress (M = 334.60, SD = 167.66), compared to nonclinical samples (M = 162.30, SD = 95.04). The ANOVA on Social Readjustment Rating scale scores was significant, $F(1, 38) = 16.00$, $p < .01$, partial $\eta = .30$. Clinical samples had significantly lower scores on nuclear family triangulation (M = 32.75, SD = 5.66), compared to nonclinical samples (M = 38.05, SD = 5.28). The ANOVA on nuclear family triangulation scores was significant, $F(1, 38) = 9.37$, $p < .01$, partial $\eta = .20$. Given that higher scores on nuclear family triangulation are suggestive of less triangulation, the results imply that the clinical group reported more triangulation, compared to the nonclinical group. Spousal fusion scores were significantly higher for nonclinical samples (M = 64.20, SD = 6.57), compared to clinical samples (M = 56.55, SD = 6.43). The ANOVA on spousal fusion was significant, $F(1, 38) = 13.85$, $p < .01$, partial $\eta = .28$. Global Symptoms Inventory scores were significantly higher for clinical samples (M = 2.10, SD = .94), compared to nonclinical samples (M = .46, SD = .25). The ANOVA on Global Symptom Inventory scores was significant, $F(1, 38) = 56.89$, $p < .01$, partial $\eta = .60$. Participants in the clinical group scored significantly lower on spousal intimacy (M = 27.50, SD = 8.53), compared to nonclinical samples (M = 39.55, SD = 11.58). The ANOVA on spousal intimacy was significant, $F(1, 38) = 14.04$, $p < 01$, partial $\eta = .27$. The ANOVA on intergenerational

triangulation was not significant, $F(1, 38) = .58$, $p > .10$, partial $\eta = .02$ (see Table 28 Univariate *F*-tests and Table 29 for means and standard deviations).

Table 28

Univariate ANOVAs on Dependent Variable by Clinical and Nonclinical Group

Variable	*F*	*p*	Effect Size
Differentiation of Self (Total Score)	15.16	.001**	.29
Personal Authority in the Family System -Q Subscales			
Nuclear Family Triangulation	11.76	.001*	.24
Spousal Fusion	13.85	.001**	.27
Spousal Intimacy	14.04	.001**	.27
Intergenerational Triangulation	.58	.453	.02
Social Readjustment Rating Scale	15.99	.001**	.30
State Trait Anxiety Inventory (STAI)	16.54	.001**	.30
Global Symptom Inventory	56.89	.001**	.60

Note: PAFS – Q = Personal Authority in the Family System Questionnaire. STAI = Self-Evaluation Questionnaire of the State-Trait Anxiety Inventory.
* $p < .05$
** $p < .001$

Table 29

Means and Standard Deviations on the Dependent Variables by Clinical and Nonclinical Groups

	Clinical		Nonclinical	
Dependent Variable	*M*	*SD*	*M*	*SD*
Differentiation of Self (Total Score)	1.95	1.10	3.10*	.85
State Trait Anxiety	43.50	5.34	50.50*	5.55
Nuclear Family Triangulation	32.75	5.66	38.05*	5.28
Intergenerational Triangulation	32.45	4.78	31.15	5.98
Spousal Fusion	56.55	6.43	64.20*	6.57
Spousal Intimacy	27.50	8.53	39.55*	11.58
Dysfunction	2.10	.94	.46*	.25
Life-Stress Events	334.60	167.66	162.30*	95.04

*$p < .05$

Exploratory Analysis

Question 3: Is there a relationship between measures of differentiation of self?

Exploratory Hypothesis 1 predicted that measures of differentiation of self will show moderate-to-strong relationships with each other and be meaningfully associated. Pearson's correlation analyses were used to examine the relationships among Differentiation of Self Inventory (DSI) quartile scores, DSI subscales: Emotional Cutoff, Fusion with Others, "I Position" and Emotional reactivity, and Personal Authority in the Family System Questionnaire (PAFS-Q) subscales: Intergenerational Fusion/Individuation, Intergenerational Intimidation and Personal Authority. According to Witte and Witte (2008), a moderate correlation is interpreted as a Pearson's correlation coefficient ranging from .40 to .80. A strong correlation is interpreted as Pearson's Correlation coefficient of .81 or higher. Differentiation of Self Inventory (DSI)

scales were largely intercorrelated with the exception of DSI –Fusion Others, and less so with PAFS subscales. The results suggest some correlations between the two sets of subscales particularly among DSI – emotional reactivity and PAFS-Q intergenerational fusion ($r = .353$, $p < .01$) and personal authority ($r = .368$, $p < .01$). DSI – fusion with others showed a moderate correlation with PAFS – Intergenerational Fusion ($r = .452$, $p < .01$). All other correlations among DSI and PAFS subscales showed small but significant correlations. See Table 30.

Table 30 *Intercorrelations for Differentiaton of Self Scores*

Variables	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1. DSI Total Score	.788**	.727**	.671**	0.057	0.219	0.175	.382*
2. DSI-Emotional Reactivity	-	.560**	.430**	0.114	.353**	0.127	.368**
3. DSI-"I Position"		-	.452**	-0.207	0.09	0.032	.286*
4. DSI-Emotional Cutoff			-	-0.395	0.152	-278*	.388**
5. DSI-Fusion Others				-	0.063	.452**	0.061
6. PAFS-Intergenerational Fusion					-	0.133	0.003
7. PAFS- Intergenerational Intimidation						-	-.134
8. PAFS-Personal Authority							-

Note: DSI = Differentiation of Self; PAFS = Personal Authority in the Family System;
DSI Total Score = quartiles of total raw score
*$p \leq .05$; **$p \leq .01$

Conclusions

The results suggest partial support for the major hypothesis in this study. For the first hypotheses, MANOVA was used to examine the relationships among measures of differentiation of self and anxiety, triangulation, spousal fusion, intimacy, dysfunction and life stress. It was predicted that married adults with higher levels of differentiation of self would show evidence of lower levels of anxiety, triangulation, spousal fusion, dysfunction, and life-stress events and higher levels of intimacy than married adults with lower levels of differentiation of self.

Contrary to the hypothesis, married adults with lower levels of differentiation of self showed lower levels of anxiety, compared to married adults with higher levels of differentiation of self in this sample. Intergenerational triangulation also significantly differed between married adults with higher levels of differentiation and those with lower levels of differentiation of self. Married adults who reported lower levels of differentiation of self reported higher levels of intergenerational triangulation. On the contrary, married adults with higher levels of differentiation of self, as measured by the Differentiation of Self (DSI) scale, obtained lower levels of intergenerational triangulation scores. Consistent with Hypothesis 2, the results of the second MANOVA suggested that participants in the clinical group scored higher on dysfunction and life stress compared to participants in the nonclinical group. As predicted, participants in the clinical group scored significantly lower on differentiation of self and intimacy, compared to participants in the nonclinical group. Participants in the clinical group also scored significantly lower on nuclear family triangulation suggesting higher levels of triangulation, compared to the nonclinical sample. Contrary to predictions, participants in the clinical sample scored significantly lower on trait anxiety and spousal fusion, compared to nonclinical samples. The Exploratory Hypothesis 3, in which it was predicted that measures of differentiation of self would show moderate to strong relationships with each other and be meaningfully associated, was partially supported. Significant low-to-moderate correlations emerged among a number of measures of differentiation of self.

CHAPTER V

DISCUSSION

Introduction

This study was undertaken to examine the contributions of measures of differentiation of self to construct validity of differentiation of self consistent with Bowen's (1978) theoretical framework. Construct validity is one of the most critical concepts in all of psychology (Westen & Rosenthal, 2003). In recent years, family systems theory has dominated family researchers' attempts to conceptualize and assess family functioning. Bowen Family Systems Theory provides one of the most elaborate and comprehensive conceptualizations of the processes of family functioning. While several measures of differentiation of self have been developed, existing measures do not fully address all of Bowen's concepts.

The current study was designed to advance the understanding of the differentiation-of-self processes. It was specifically intended to examine the contributions to construct validity of instruments that assess the level of differentiation, using a clinical and nonclinical sample. Construct validity is the extent to which the instruments contribute to the nomological network surrounding the theoretical construct they were designed to measure. If a psychological test or experiment does not contribute to construct validity, the results of that research will be difficult to interpret (Westen & Rosenthal, 2003). It was also a goal of the study to determine what gaps are present in the differentiation-of-self measures used and to elucidate how these gaps could be filled.

According to Bowen Family Systems Theory, differentiation of self describes a multidimensional and complex process governed by one's ability to separate the self, at the level of emotional functioning, from that of the family system. According to Bowen, individuals who

have higher levels of differentiation of self have more control over their emotional systems. Another important variable that Bowen (1978) reported was the level of chronic anxiety present in the individual. This is an index of how the individual reacts emotionally and perpetuates dysfunctional patterns of functioning. Kerr and Bowen (1988) defined level of functioning utilizing the principles of differentiation of self and chronic anxiety. The lower a person's level of differentiation, the less one is able to adapt to stress. The higher a person's level of differentiation of self, the more that individual can manage and adapt to stress.

In the first hypothesis, it was proposed that married adults with higher levels of differentiation of self would show lower levels of anxiety, triangulation, spousal fusion, dysfunction, and life-stress events, and higher levels of intimacy than married adults with lower levels of differentiation of self. Consistent with the hypothesis, married adults with higher levels of differentiation self scored lower on triangulation and on dysfunction. Contrary to the proposed hypothesis, married adults with higher levels of differentiation of self scored significantly higher on anxiety on the State Trait Anxiety Inventory, compared to married adults with lower levels of differentiation of self. Additionally, no significant differences between married adults with higher levels of differentiation, compared to married adults with lower levels differentiation of self, emerged for spousal fusion, intimacy, and life stress.

Differentiation of self serves as one of Bowen's (1976) eight interlocking concepts, along with multigenerational transmission process, emotional triangle, nuclear family emotional process, family projection process, sibling position, emotional cutoff, and societal regression. These eight interlocking concepts are part of the nomological network that constitute Bowen Family Systems Theory and describes, in part, what attributes make up the construct,

differentiation of self. These attributes or qualities are used as operational definitions to contribute to the construct validity of measurement tools (Cronbach & Meehl, 1955)

In 1976, Bowen developed a differentiation of self scale on a continuum from 0 to 100. According to Bowen, the lower end of the continuum comprises poorly differentiated individuals whose functioning is dominated by a fusion between their emotional and intellectual systems. Those who fall at the other end of the continuum are highly differentiated individuals whose functioning is governed by integration between their intellectual and emotional systems. Bowen described this as more of a theoretical scale to use in discussions concerning differentiation of self rather than as an empirical measure of differentiation of self.

Other, more empirically developed measures, have been developed and utilized in this study to determine whether they accurately assess the construct of differentiation of self. Determining the usefulness of a measure in evaluating construct validity is critical in linking conceptual definitions and the operational definitions of variables described within that concept. (Lobiondo-Wood & Haber, 1994). When a measurement tool operationalizes a theoretically defensible set of premises, and when empirical testing confirms the relationship that would be predicted among them, the utility for establishing construct validity by means of using the measurement tool is supported (Burns & Grove, 1993).

The State Trait Anxiety Inventory (STAI-T) is a measurement tool that has frequently been used in basic research to assess for chronic anxiety. Bowen Family System Theory is based on the proposition that an individual's level of differentiation of self is inversely correlated with one's level of chronic anxiety. Utilizing the STAI in studies to examine differentiation of self can support the establishment of discriminant validity of a measure, and thus strengthens support for its construct validity. In a study that utilized the STAI to provide discriminant validity,

Skowron and Friedlander (1998) measured chronic anxiety, utilizing the STAI and the DSI to measure differentiation of self. Results indicated that the DSI correlated positively with the STAI. While this gives added support to the establishment of the construct validity of both measures, results in the present study did not support the predicted hypothesis. Scores on the differentiation of self measures and the STAI demonstrated that married adults with higher levels of differentiation of self scored significantly higher on the STAI.

In the second major hypothesis, it was predicted that clinical samples will demonstrate higher levels of anxiety, triangulation, spousal fusion, dysfunction, and life-stress events and lower levels of differentiation of self and intimacy than non-clinical samples. Consistent with the aforementioned hypothesis, participants in the clinical sample expressed higher nuclear family triangulation, dysfunction, and life stress events and lower levels of differentiation of self and intimacy. Contrary to the hypothesis, however, clinical samples scored significantly lower on anxiety and spousal fusion compared to nonclinical samples.

In this study, participants in the nonclinical sample had a significantly increased chance of being White and being better educated. Participants in the clinical sample were more likely to be African American or Hispanic and less educated. The attributes of gender and race/ethnicity have long been known to have an impact on individuals and level of functioning. A minority family's lack of education can contribute to lower levels of functioning. Bowen (1976) asserted that individuals with lower levels of differentiation of self will have more dysfunction and life-stress events. These assertions may have been the cause behind the findings in which the clinical sample experienced more nuclear triangulation, dysfunction, and life stress events.

In studies utilizing similar measures, further indications of construct validity of differentiation of self measures emerge when the findings support similar results. As these

hypothesized relationships are verified by research, the degree of confidence that can be placed in a test increases (Groth-Marnet, 1990). The DSI has been utilized in many research studies similar to the present one. Skowron and Friedlander (1998) examined differentiation of self constructs utilizing several of the same differentiation-of-self measures used in the present study. In the study, "Do Parents' Differentiation Levels Predict Those of Their Adult Children? And Other Tests of Bowen Theory in a Philippine Sample", Tuason and Friedlander, (2000) utilized the DSI (Skowron & Friedlander, 2000), the Symptom Checklist-90-R (SCL-90-R) (Derogatis, 1994), The Social Readjustment Rating Scale (SRRS) (Holmes & Rahe, 1967), and the State-Trait Anxiety Inventory (STAI-T) (Spielberger, 1983). These measures were also utilized in the present study.

The Differentiation of Self Inventory (Skowron & Friedlander, 1998) is a self-report measure used in many past studies to measure the construct, differentiation of self. Results of these studies support the DSI's overall ability to measure the construct, differentiation of self. Skowron and Friedlander (1998) found a significant inverse relationship between differentiation of self and psychological distress. This was also found in the present study, in which dysfunction and life stress were significantly higher in the clinical group than in the nonclinical group. These similar results provide convergent validity to the present study's measures of the construct differentiation of self.

In a study that utilized The Personal Authority in the Family System Questionnaire (PAFS-Q) (Bray et al., 1984; Hurst et al., 1996). The PAFS-Q examined levels of differentiation of self in families with multiple problems. Their hypothesis that parents in these families would demonstrate lower levels of differentiation than a normal group of adults drawn from the general population was supported. Consistent with the hypothesis in the present study, participants in the

clinical group scored higher on dysfunction and life stress compared to participants in the non-clinical group. These results support the usefulness of the measures employed in the present study in evaluating its contributions to establishing construct validity. Bowen and Kerr's (1988) proposition regarding those individuals who have a fusion between the emotional and intellectual systems are more likely to experience more psychological stress than individuals who have more control of their emotional systems was supported.

In the third hypothesis of the study, regarding significant relationships between differentiation-of-self measures, only partial support was found in support of this hypothesis. Significant correlations emerged among measures of differentiation of self. Support for these relationships emerged among Differentiation of Self (DSI) total scores and DSI subscales, Emotional reactivity, I Position, and Emotional Cutoff. The DSI total score also showed a small, but significant relationship with Personal Authority of the Family System Questionnaire (PAFS-Q) Personal Authority. The DSI subscale Emotional Reactivity showed a significant, moderate relationship with the DSI subscales I Position and Emotional Cutoff. DSI Emotional Reactivity subscale also showed significant moderate relationships with PAFS Intergenerational Fusion/Individuation and Personal Authority.

The third hypothesis bolstered construct validity of the tests designed to measure Bowen Family Systems Theory in this study, which included the Differentiation of Self Inventory (DSI) by Skowron and Friedlander (1998) and the Personal Authority in the Family System Questionnaire (PAFS-Q) by Bray et al. (1984), which purport to measure the construct, differentiation of self, and the linkages of one's functioning in relationships to predicted correlates in the Trait version of the State-Trait Anxiety Inventory (STAI-T) (Spielberger et al., 1983); and a symptom checklist (Symptom Checklist 90-Revised (SCL-90) (Derogatis, 1994),

which was also administered to assess the participant's level of functioning as it pertains to adaptations to chronic anxiety as they related to gaps in the previously listed differentiation of self measures. Lastly, the Social Readjustment Rating Scale (SRRS) (Holmes & Rahe, 1967) was administered to determine if stressful life events are predictive in determining level of differentiation of self. While significant correlations were found between the DSI total scores and three of its subscales and between the DSI total score and Personal Authority and intergenerational fusion/individuation, stronger evidence would have allowed more generalizability of the study results as they contribute to the evidence of construct validity of the measures used.

The result of the exploratory hypothesis in the present study, which predicted that measures of differentiation of self would show moderate to strong relationships with each other and be meaningfully associated, was supported. Significant correlations were demonstrated among measures of differentiation of self. These results lend further support toward establishing support for the construct validity of the DSI as well as the PAFS-Q used in this study.

In "Deconstructing Differentiation: Self-Regulation, Interdependent Relating, and Well-Being in Adulthood," Skowron et al., (2003) utilized The Differentiation of Self Inventory (1998) and the Personal Authority in the Family System Questionnaire (Bray et al., 1984). The authors' purpose was to test for evaluating construct validity of the two measures as a step toward affirming construct validity regarding differentiation of self, and as a means of evaluating family patterns and whether they are associated with well-being. Results supported the usefulness of these two measures regarding construct validity, with measures indicating higher levels of differentiation of self associated with reports of greater well-being in men and women.

Skowron (2000) utilized the Differentiation of Self Inventory (DSI) to examine how individuals seek out partners who are equal in their levels of differentiation of self. The results confirmed greater level of satisfaction in relationships in which the partner had higher levels of differentiation while less-differentiated couples reported more marital distress. Other results indicated that, when partners in the marriage, especially the male partner, remain emotionally present and available to each other, both husband and wife are more likely to experience the marriage as satisfying. Similarly, in the present study it was found that participants in the clinical group scored significantly lower on differentiation of self and spousal intimacy compared to participants in the nonclinical group. These results support Bowen's concept that a couple's ability to be emotionally connected with each other and also maintain their individualities is an important component of a satisfying marriage.

A finding that established a pattern that was not included in the hypotheses, but should be noted, is the impact that education had on the results. Participants who were employed at the outpatient mental health center who responded to questions regarding their education, and reported that they were educated at the graduate or professional level, were found to have more intimacy with their spouses, compared to participants who reported that they had a high school diploma. Similarly, participants who were employed at the outpatient mental health center who responded that they were educated at the graduate or professional level, and/or held college degrees, were also found to have more intimacy with their partners who then respondents who held a GED. In other findings, participants who were employed at the outpatient mental health center, and responded that they had a college degree or a graduate or professional level of education, had higher levels of intimacy with family members than participants who held a GED level of education. Participants who were employed at the outpatient mental health center who

held a GED or high school level of education also reported more psychological and physical symptoms of dysfunction than participants who held college or graduate and professional levels of education. Similar findings were that participants who were employed at the outpatient mental health center and had a high school education had more stressful life events than those participants who had a college degree or graduate or professional level of education.

The participants who were employed at the mental health center, and had partners who responded that they held college degrees or a graduate or professional level of education, were more likely to have more intimacy with family members than those participants who held a GED.

Contrastingly, participants who were employed at the outpatient mental health center, who responded to questions regarding their education, reported more individuation than those participants who were in the nonclinical group who had higher levels of education than participants in the clinical group.

In the present study, a significant amount of missing data emerged among study variables. This should be more thoroughly guarded against in future studies. A significant number of missing cases can result in biased and inaccurate conclusions as well as in loss of statistical power. The following variables contained missing values that exceeded 5% of cases: nuclear family triangulation (112 valid responses, 26 missing cases or 23%), spousal fusion/individuation (112 valid cases, 28 missing cases or 25%), spousal intimacy (112 valid cases, 13 missing cases or 12%), intergenerational intimacy (112 valid cases, 20 missing cases or 18%), dysfunction (112 valid cases, 11 missing cases or 9%), differentiation of self scores (112 valid cases, 42 missing cases or 38%).

Demographically, missing values for the entire sample that exceeded 5% included: age of participants (112 valid cases, 23 missing cases or 21%), gender, race/ethnicity (112 valid cases, 24 missing cases or 21%), gender (112 valid cases, 24 missing cases or 21%), race/ethnicity (112 valid cases, 28 missing cases or 25%), marital status (112 valid cases, 23 missing cases or 21%), educational level of self (112 valid cases, 26 missing cases or 23%), educational level of partner (112 valid cases, missing values 59 or 47%), use of mental health services (112 valid cases, missing values 13 or 21%).

Originally, a power analysis was to be the basis for deciding the sample size for this investigation, and in determining its effect size (ES). This was going to be done in order to represent the magnitude of treatment effects found (Cohen, 1988). Four overall factors that determine statistical power are the statistical test, effect size, sample size, and alpha level. For this study, the following recommendations by Cohen (1988) were not able to be adhered to: alpha = .05, medium effect size (ES) = .25, power = .80. This combination had yielded a sample size of 180 participants; this number had been calculated utilizing GPOWER, a general power analysis software program (Erdfelder et al., 1996).

Attempts to address the missing cases were taken by implementation of a linear regression estimation approach to missing values. The approach is conservative, in that missing values are consistent with existing data points, and that the predicted values are congruent with the overall range of scores for the specific variable. Nonetheless, future studies examining the relationship between differentiation of self and other assessment tools to measure constructs should have more complete data.

Researchers could also systematically explore the implications of missing data on study conclusions. Of importance is not only the number of missing cases, but the pattern of missing

cases. For example, it is possible that the missing cases observed among nuclear family triangulation, spousal fusion/individuation, spousal intimacy, intergenerational intimacy, dysfunction and differentiation of self reflect attitudinal factors or other characteristics of the study sample that could be clearly assessed by a more comprehensive missing-values analyses.

Discussion of Results

Cronbach and Meehl (1955) recommended making strategic decisions as to how the results can be interpreted when predictions about a construct are discordant with the results. They suggested that the test may not measure the construct variable accurately, that the theoretical network used to generate the hypotheses is incorrect, or that the experimental design failed to test the hypotheses correctly. Following is a discussion of the results and possible explanations that make the results reasonable.

One discordant result of this study, surprisingly, found that married adults with lower levels of differentiation showed lower levels of anxiety, compared to married adults with higher levels of differentiation of self and higher levels of anxiety in this sample. While this does not support the hypothesis that married adults with higher levels of differentiation of self would show evidence of lower levels of anxiety, there is some discrepancy in the literature that may lend support of this contrary result.

The present study used the nomological network (Cronbach & Meehl, 1955; Campbell & Fiske, 1959) of Bowen Family Systems Theory. The present study did provide some evidence of the construct validity of differentiation of self measures utilized in this study. When the evidence does not support the construct validity of measures defined within a nomological network, revisions may be needed in the test, in the conceptual framework that shapes it, or in

the construct that is being measured (American Educational Research Association, American Psychological Association & National Council on Measurement in Education, 1999).

There are several factors that may have contributed to the contrary, or discrepant, results found in the present study. In the study utilizing the Differentiation of Self Inventory, Skowron (2000) measured the role of differentiation of self in marital adjustment. As noted, results indicated that several hypotheses in the study were supported. To the extent that individuals, rather than dyadic partners, reported the data in this study, the results added support to the premise that a couple's ability to be intimately connected with one another and still maintain their individualities is an important component of a satisfying marriage. Remaining intimately connected while maintaining their individualities is in keeping with Bowen Family Systems Theory. Contrary to family systems theory, though, actual couples in the study were no more similar on differentiation of self scores than were randomly matched couples. Disparities between a couple's levels of differentiation of self skew findings when either individual in the couple had a higher or lower level of differentiation of self and level of chronic anxiety. This makes it difficult to determine an accurate assessment of differentiation of self levels in the couple. Extrapolated, whether a couple has higher or lower levels of differentiation of self partially supports the contrary results of the present study in which married couples with higher levels of differentiation of self also had higher levels of anxiety, compared to married couples with lower levels of differentiation of self and lower levels of anxiety.

As reported earlier, Skowron and Friedlander (1998) developed the scale, the Differentiation of Self Inventory (DSI), using three separate studies to support the construct validity of the measure, as well as to determine whether there was a relationship between differentiation of self and marital satisfaction. In each of the three studies, there was no

comparison of clinical and nonclinical groups. This lack of including a clinical and nonclinical group in the design decreases the overall value of the Differentiation of Self Inventory (Skowron & Friedlander, 1898), as it pertains to its ability to support the hypothesis that married adults with lower levels of differentiation of self would have higher levels of anxiety, compared to married adults with higher levels of differentiation of self with lower levels of anxiety. Including clinical and nonclinical groups would have bolstered the potency of the study, and fell short in examining Bowen's proposition that people marry others at the same differentiation-of-self levels as themselves (Bowen, 1978; Kerr & Bowen, 1988). Including a clinical and nonclinical group would have strengthened the study by providing further support for the establishment of discriminant validity of the measure.

In another study that may explain the contrary results found in the present study, Tuason and Friedlander (2000) utilized many similar measures of differentiation of self as those in the present study. The authors examined the relationship between differentiation of self and psychological distress in married couples, as measured by the SRRS (Holmes & Rahe, 1967). They found that differentiation of self was not significantly predicted by current levels of environmental stress. The authors concluded that, based on their findings, the SRRS may have been a poor choice to measure levels of stress. The authors also believed that the study's results were also related to the lack of empirical support for the SRRS. The SRRS lacks empirical data supporting its use as a valid measure of environmental stress and anxiety. These findings could decrease the overall value of the Social Readjustment Rating Scale (Holmes & Rahe, 1967) used in the present study. This conclusion decreases the value of the present study's findings in that the SRRS was utilized (Holmes & Rahe, 1967).

Another possibility for the results of the study may have been due to what Bowen (1976) called the basic self, or pseudoself. An individual who is poorly differentiated and who operates out of an emotional system in reaction to others has a lower level of basic, or solid, self. The higher the basic self, the more a person can maintain high functioning and not focus on others even in a highly stressful situation. Bowen (1976) also described the functional, or pseudoself, which includes an appended or pretend self. In contrast to basic or solid self, which is not negotiable within the relationship system, the functional self is a fluid and shifting level of self within the relationship system. It can be changed or modified as the emotional pressure in the relationship changes. This may explain the present study's findings that married individuals with lower levels of anxiety had lower levels of differentiation if the measures used were examining the functional, or pseudoself, of the individual rather than the basic or solid self.

More basic research to measure an individual's level of differentiation of self in a calm environment and in a simulated stressful environment could further differentiate differences in the pseudoself, or functional self, and basic or solid self. Basic differentiation is functioning that is not dependent on the relationship process. Functional differentiation of self is functioning that is dependent on the relationship process. This means that individuals that have widely different basic levels can under certain circumstances, have similar functional levels. Discerning the differences in basic and functional self would be evidence of construct validity of differentiation of self. These findings could then be utilized as further support for the nomological network of Bowen's (1976) construct differentiation of self.

Similarly, Skowron and Friedlander (1998) suggested that the DSI may estimate basic differentiation of self, rather than the functional differentiation of self. Tuason and Friedlander (2000) also argued that the DSI does not comprehensively measure differentiation of self. They

reported that, because of the construct's complex multigenerational aspects, it is impossible to assign a precise level of differentiation to an individual. Kerr and Bowen (1988) thought similarly. Future studies could differentiate differences in functional differentiation and basic differentiation of self utilizing a multigenerational approach to assess a family member. Research that also included multiple family members could potentially capture differences in the pseudoself and basic levels of self.

Another reason for the discrepant results found in this study could be due to the small sample size of the clinical and nonclinical groups. A power analysis was conducted to determine what sample size was needed to determine statistical power for this study. A sample size of 180 participants was not accessible, as originally thought, in the design of the study. Too few participants returned the packets, making it difficult to firmly establish support for the confirmation of construct validity in the study. Another factor that may be a consideration in the present study is that participants in the nonclinical group were also more likely to have a significantly higher level of education than those in the clinical group and significantly more likely to be White. These factors may have contributed to the present study's findings, in which married adults in the nonclinical group had lower levels of differentiation of self. These issues can be addressed in future studies that contribute to construct validity of differentiation of self by having nondiscrepant comparison groups.

Other findings in the present research study partially supported Hypothesis 2, with participants in the clinical group scoring higher on dysfunction and life stress compared to participants in the nonclinical group. As predicted, participants in the clinical group scored significantly lower on differentiation of self and intimacy, compared to participants in the non-clinical group. The results of the Exploratory Hypothesis 3, which predicted that measures of

differentiation of self will show moderate to strong relationships with each other and be meaningfully associated was also supported. These findings support the usefulness of measures utilized in the present research study to evaluate their contributions to establishing construct validity regarding differentiation of self.

Prior to hypothesis testing, data were thoroughly screened for skewness and kurtosis, extreme observations that might distort the data, and for missing values. Nuclear family triangulation, spousal fusion/individuation, spousal intimacy, intergenerational intimacy, dysfunction, and differentiation of self scores had significant amounts of missing values. The issue of missing values presents a serious challenge to researchers, and unfortunately there is yet to be a universally agreed-upon solution to this problem. Missing values can result from many participant characteristics, including fatigue or a participant's response style. However, missing values could also stem from the characteristics of the questionnaires. For example, certain questions may be uncomfortable, and some questions may require more cognitive and affective processing. Missing responses can produce biased results. Participants' characteristics on multiple dimensions of a construct cannot be accurately described if responses are left blank.

According to Tabachnick and Fidel (2007), a variable that contains 5% or more of missing values should be addressed statistically. Additionally, significant missing values on a construct can result in biased and inaccurate conclusions. The reliability of a study's results is also contingent on its statistical power. For studies with small sample sizes, deletion of missing values can threaten power and, therefore, minimize the generalizability of results.

Analyzing the results of this study involved using a linear regression estimation method to estimate missing values. According to Widaman (2006), "Regression substitution has one major strength—the substituted values are consistent with specified relations among variables in

the data set" (p. 52). The regression approach is conservative in that it is consistent with the range of scores present in the data set and will not distort the data, since the estimated values are consistent with preexisting scores. Nonetheless, given that there are many strategies for dealing with missing data (e.g., deletion procedures, imputation, and substitution), some of which diverge between research studies, future researchers must assess the contributing roles of missing-values approaches to data analyses and the implications for validity, reliability and generalizability of results.

Clinical Implications

Clinical implications of the present study include the importance of building on the knowledge base of Bowen (1978) Family Systems Theory. In the years since it was initially developed, much has been written on the theoretical aspects of the eight separate concepts that make up this increasing important guide in marriage and family therapy techniques. Since it was developed, though, it has been increasingly utilized in the study of the processes and interactions of family systems. To the extent that construct validity of measurement tools support the theoretical constructs, major assumptions of the Bowen Family Systems Theory stand up to the soundness of empirical scrutiny.

Results of the present study and the clinical implications support the ongoing continuance of construct validity studies to determine whether the tools used in the present study can also be practical measures in the clinical area. These measures can then be used for the purpose of assessment of an individual's level of functioning and subsequent treatment. Measurement tools that accurately reflect functional and dysfunctional families give the reassurance that is necessary for its use to allay the symptoms of anxiety and increase an individual's ability to remain in contact with their intellectually based principles.

Because of the low return rate of completed packets from the clinical and nonclinical sample, great caution must be taken in generalizing the results of these studies. Measurement tools in the present study that had already supported the assessment of the variables studied, and contribute to construct utility, can be utilized in the clinical area as a means of assessment and treatment.

Limitations of the Present Study

Limitations to this study include using a sample of convenience to assess the contributions to construct validity of the Differentiation of Self Inventory (DSI) (Skowron & Friedlander (1998), the Personal Authority in the Family System Questionnaire (PAFS-Q) (Bray, et al., 1984), The Trait Version of the State-Trait Anxiety Inventory (STAI-T) (Spielberger et al., 1983), Symptom Checklist-90 Revised (SCL-90R) (Derogatis, 1994), and the Social Readjustment Rating Scale (SRRS) (Holmes & Rahe, 1967).

The majority of the participants in the sample were White, Hispanic, and African American married adults from a suburban community. In the clinical group, there was a preponderance of African Americans (73%), as compared to the nonclinical group which had a significantly higher number of Whites (70%). The ages in the sample of married adults ranged from 25 years and up. These factors limit the generalizability of the findings.

Further limitations of this study results from the lack of multiple family members' knowledge of perspectives on family system issues. The personal Authority in the Family System Questionnaire (Bray et al., 1984) does utilize multigenerational questions, but only from the perspective of the individual completing the measure. It does not compare any other family member's perspective to support the construct of differentiation of self through generations. This limits its validity as an accurate measure of Bowen's concept of differentiation of self.

A further limitation to this study is the use of cross-sectional data. Cross-sections of methodologies do not comprehensively measure differentiation of self. Kerr and Bowen (1988) noted that the concept of differentiation of self could be accurately measured only after an extended period of time of months of interviews and interaction. They went on to report that the concept differentiation of self was not quantifiable. No research study included in the present one supports construct validity as measured by a longitudinal examination of differentiation of self.

A final limitation of this study was the smaller-than-recommended sample size obtained from the power analysis recommended by Cohen (1988). Having a smaller sample size than needed decreases the statistical power of the results. The recommended sample size for this study was 180 participants. This limits the amount of treatment effects and decreases the overall value of the results found.

In the present study, a significant amount of demographic data was not reported, due to the low rate of responses to various items on the measurement instruments in the packets distributed to the clinical and nonclinical group of participants. The total sample equaled 112, with 54, or 48%, in the clinical group and 58, or 52%, in the nonclinical group. The total number of respondents who reported ages was 89; this left 23, or 21%, of the respondents who did not report ages. The total number of participants who reported gender was 84, leaving 28, or 25%, of the participants who did not report gender.

There were a total of 84 respondents who reported race/ethnicity, which left a total of 28 respondents, or 25%, who did not report race/ethnicity. There were a total of 89 respondents who reported marital status which left a total of 23 respondents, or 21%, who did not report marital status. There were a total of 82 respondents who reported educational levels which left a

total of 30 respondents, or 27%, who did not report educational level. There were a total of 50 respondents who reported the educational level of a partner, which left a total of 62 respondents, or 55%, who did not report the educational level of a partner. There were a total of 85 respondents who reported the use of mental-health services, which left a total of 27 respondents, or 24%, who did not report the use of mental health services.

There were a total of 27 participants in the clinical group who completed the DSI, which left a total 27 participants or 50% who did not complete the DSI. The total number of participants in the nonclinical group who completed the DSI was 39 which left a total of 19 participants or 33% who did not complete the DSI. The total number of participants in the clinical group who completed the PAFS-Q was 11, which left a total of 43 participants, or 80%, who did not complete the PAFS-Q. The total number of participants in the nonclinical group who completed the PAFS-Q was 16, which left a total of 42 participants, or 72%, who did not complete the PAFS-Q.

There were a total of 22 participants in the clinical group who completed the STAI, which left 32 respondents, or 59%, who did not complete the STAI. There were a total of 25 participants in the nonclinical group who completed the STAI, which left 33 respondents, or 57%, who did not complete the STAI. The total number of participants in the clinical group who completed the SRRS was 39, which left 15 participants, or 28%, who did not complete the SRRS. The total number of participants in the nonclinical group who completed the SRRS was 42, which left 16, or 28%, who did not complete the SRRS. The total number of participants in the clinical group who completed the GSI was 18, which left 36 participants, or 67%, who did not complete the GSI. The total number of participants in the nonclinical group who completed the GSI was 20, which left 38 participants, or 66%, who did not complete the GSI. The total

number of participants in the clinical group who completed the SCL-90-R was 42, which left 12 participants, or 22%, who did not complete the SCL-90-R. The total number of participants in the nonclinical group who completed the SCL-90-R was 37, which left 21 participants, or 36%, who did not complete the SCL-90-R.

Future Directions

Future directions in the development of construct validity to accurately conceptualize differentiation of self would be to continue conducting basic research to measure major assumptions of Bowen Family Systems Theory. Examination of the existing tools that measure differentiation of self constructs is also critical to future research in measuring family functioning. A measurement tool that accurately reflects differentiation of self supports the establishment of its construct validity. Construct validity involves examining the fit between conceptual definitions and operational definitions of the variables described within that concept (Lobiondo-Wood & Haber, 1994). Construct validity also enables a researcher to develop measurement tools that are based on a theoretically defensible set of premises (Sabatelli & Bartle, 1995). Construct validity also supports the utility of the instrument and provides reassurance that the instrument actually measures what constitutes functional and dysfunctional families. All measures of family functioning represent a value position, or a construction of what an effectively functioning or dysfunctional family looks like. In this manner, a clear theoretical perspective of family functioning could be developed using Bowen Family Systems Theory to provide effective assessment and treatment of dysfunctional families.

A valid measure of differentiation of self would need to include a unit of analysis that reflects overall functioning of the individual or family. Studies involving a unit of functioning that includes only the perspective of an individual should not be used to assess the overall

functioning of a family system. Criteria for measuring the level of function or dysfunction in a family would need to include measures of multiple perspectives of the family. To measure multigenerational transmission, an inclusion of members of the previous generations would be necessary.

Future studies to examine and support the establishment of the construct validity of differentiation of self should have a design which uses appropriate statistical analyses, and also includes an adequate number of participants in the sample. Less than the sample size recommended by Cohen (1988) decreases the overall ability of the results to have statistical significance and to be generalizable. A power analysis is the basis for deciding the sample size for an investigation, and in determining the effect size (ES), in order to represent the magnitude of treatment effects found.

Utilizing a clinical and nonclinical sample also supports the basis for establishing construct validity of differentiation of self. Research comparing clinical and nonclinical samples could support basic propositions of Bowen Family Systems Theory. Clinical populations would be predicted to have higher levels of anxiety and lower levels of differentiation of self, and, conversely, nonclinical populations would have lower levels of anxiety and higher levels of differentiation of self. A distinction between variables that support the usefulness of construct validity of differentiation of self could be made. If no distinction were found between the samples, a revision of the measurement tool would be expected or a questioning of the validity of the theory.

Future directions in research on differentiation-of-self measures would include an examination of the three patterns that Bowen (1978) described as "manifestations of anxiety in individuals in a relationship". These include dysfunction in the spouse, marital conflict, and

dysfunction in one or more of the children. Dysfunction in the spouse, or one or more of the children, includes social acting out or physical illness. There is a paucity of research on Bowen Family System Theory to measure the physical health or social acting-out of family members.

In this study, a significant finding that could similarly be explored is between educational level of participants and partners, and life stress events and levels of anxiety. In this sample, the lower the level of education of the participants and partners, the more likely they were to experience higher amounts of life stress events and higher levels of anxiety. Another trend that emerged in this study was that race/ethnicity had an effect on the number of life-stress events and levels of anxiety on participants. Bowen (1976) asserted that individuals with higher levels of anxiety are more apt to incur more life-stress events, or vice versa. He attributed this to an inability to distinguish between emotional and intellectual systems and being more apt to make decisions based on emotionality. Individuals who operated out of their intellectual systems were more typical of making life choices based on long-term life goals. Other explanations are addressed by Sue and Sue (1977), who examined the concept of locus of control and locus of responsibility on counseling of culturally diverse populations. In this study, there were variables that were unevenly distributed in the clinical and nonclinical group. In individuals that are culturally diverse, the issue of locus of control and locus of responsibility may have implications of how respondents completed each assessment tool within the packets that were handed out and returned.

Sue and Sue (1977) discussed how minorities in America have strong world views, which are related to racism and the subordinate position assigned to them in society. The focus on locus of control and locus of responsibility as to how culturally diverse individuals perceive world views are based on internal or external orientations. Internal control refers to peoples'

beliefs that their reinforcements are consequences of their own actions, and that they are responsible for their own destiny. Externally controlled individuals are individuals who believe that their life consequences are independent of their actions and that their futures are shaped by chance.

Another dimension of world views that may also had implications as to how respondents answered or not is based on attribution theory, and has been referred to in the literature as locus of responsibility (Sue & Sue, 1977). This dimension refers to how individuals measure the degree of responsibility or blame on themselves or another system. In the case of culturally diverse individuals, their lower standard of living can be attributed to their own inadequacies, or may be attributed to discrimination and lack of opportunity. Bowenian theory is more individually focused in that differentiation of self concerns locus of control. When resources and opportunities are unequally distributed, locus of responsibility must also be taken into account. Adequate analyses involving racial dynamics involve both variables. The variable, race/ethnicity, on level of anxiety and life stress events could be explored in future research on the construct differentiation of self.

This trend also supports Bowen's (1976) supposition that societal regression is a process that may affect individuals and families in all cultures. Societal regression implies that we are devolving as a species, and that as anxiety and stress increases, human beings may become more reactive and emotional. When societal regression occurs, anxiety may rise and projection, and/or emotional cutoff between groups, may emerge and influence realities and perceptions in locus of responsibility (Sue & Sue, 1999)

Skowron (2004) reported that research is needed to evaluate family systems theories for counseling researchers and practitioners investigating and treating diverse client populations. In

a study that used the DSI to examine the cross-cultural validity of the construct differentiation of self in persons of color, she found a moderate and comparable result to those of a European American sample similar in terms of age and gender. Persons of color who had higher levels of differentiation of self, as predicted, had greater psychological adjustment and social problem-solving skills. She concluded that Bowen Family Systems Theory has relevance among cross-cultural populations. These findings lend support that Bowen Family Systems Theory is a useful tool in assessment and counseling of culturally diverse clients.

Another factor that research in Bowen Family System Theory that could be pursued is the effect of race/ethnicity status on dysfunction. In this sample, African Americans and Hispanics had an increased chance of being in the clinical group, and Whites were more likely to be in the nonclinical group. To adequately study differentiation of self, comparison groups must be balanced on all demographic variables.

Sue and Sue (1977) discussed barriers to effective cross-cultural counseling and noted that within the Western framework, counseling is a White, middle-class activity that holds many values and characteristics different from Third-World groups. They believe these barriers hinder and distort communications because Third-World clients are disproportionately represented in the lower classes. The counselor must take into consideration, and be aware, that many aspects of counseling culturally diverse clients are not considered helpful and may actually be considered antagonistic to them. Adequate education in cross-cultural norms and assessment tools that include all diverse clients need to be utilized in treating these individuals.

In the past, researchers have developed measurement tools to measure differentiation of self, in an attempt to define family functioning. These include paper and pencil surveys, observation, and interviews. These multiple methods of measuring differentiation of self aid in

establishing support for construct validity. This is another step toward affirming whether existing measures of differentiation of self provide a clear link between theory and assessment.

In the future, researchers must accurately measure Bowen Family Systems constructs with careful scrutiny, so as to further define what constitutes family functioning in order to link theory with assessment and treatment. Development of a measurement tool must include all variables of the construct, though, or the operational definition will fail to reflect the construct adequately, and the test will not measure what it purports to measure. In such a case, the researcher needs to identify the extent to which the research study implied negative evidence, whether it was due to the test's not measuring the construct variable, whether the theoretical network which generated the hypothesis was incorrect, or whether the experimental design failed to test the hypothesis correctly.

The relationship between measures of differentiation of self and the process of establishing construct validity is a complex process that involves several studies and several approaches to measuring a construct. The construct validity of differentiation of self is critical to the integrity of any research study designed to measure family functioning from a Bowenian perspective. Future researchers need to address this complex process to accurately bolster the body of literature underlying the measurement and validity of the construct differentiation of self.

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APPENDIX A: INSTITUTIONAL REVIEW BOARD APPROVAL

REQUEST FOR APPROVAL OF RESEARCH, DEMONSTRATION OR RELATED ACTIVITIES INVOLVING HUMAN SUBJECTS

All material must be typed.

PROJECT TITLE: A construct validity study of differentiation of self measures and their correlates

CERTIFICATION STATEMENT:

In making this application, I(we) certify that I(we) have read and understand the University's policies and procedures governing research, development, and related activities involving human subjects. I (we) shall comply with the letter and spirit of those policies. I(we) further acknowledge my(our) obligation to (1) obtain written approval of significant deviations from the originally-approved protocol BEFORE making those deviations, and (2) report immediately all adverse effects of the study on the subjects to the Director of the Institutional Review Board, Seton Hall University, South Orange, NJ 07079.

Mary Jane Maser — 12/11/2007

Mary Jane Maser
RESEARCHER(S) OR PROJECT DIRECTOR(S) — DATE

**Please print or type out names of all researchers below signature.
Use separate sheet of paper, if necessary.**

My signature indicates that I have reviewed the attached materials and consider them to meet IRB standards.

Robert F. Massey, Ph.D. — 1/15/2008

Robert F. Massey, PhD
RESEARCHER'S ADVISOR OR DEPARTMENTAL SUPERVISOR — DATE

Please print or type out name below signature

The request for approval submitted by the above researcher(s) was considered by the IRB for Research Involving Human Subjects Research at the Jan 2008 meeting.

The application was approved ✓ not approved ___ by the Committee. Special conditions were ___ were not ✓ set by the IRB. (Any special conditions are described on the reverse side.)

Mary J. Ruzicka, Ph.D. — 2/7/08

Mary Ruzicka, PhD
DIRECTOR,
SETON HALL UNIVERSITY INSTITUTIONAL
REVIEW BOARD FOR HUMAN SUBJECTS RESEARCH — DATE

APPENDIX B: LETTER OF SOLICITATION

Letter of Solicitation

Dear Potential Participant,

My name is Mary Jane Maser, and I am a doctoral student in the Marriage and Family Ph.D. program in the Department of Professional Psychology and Family at Seton Hall University.

The purpose of this research study is to explore how adults view themselves in relation to their families and relationships and the consequences for their levels of anxiety, emotional well-being, and levels of stress. You will also be requested to answer a demographics questionnaire (i.e., age, gender).

The estimated time of participation to complete the research study is between sixty to ninety minutes.

You will be asked to complete six questionnaires. The first is the Differentiation of Self Inventory which was developed to examine an individual's sense of self in interpersonal relationships and relationships with one's family of origin. Questions include, "I try to live up to my parent's expectations," and "I wish I weren't so emotional." The second is the Personal Authority in the Family System Questionnaire, which was developed to assess important current relationships in the three-generational family as perceived by the individual. Questions include, "How does your success and satisfaction compare to your parents' success and satisfaction," and, "How often do you seek parental approval"? The third is the Trait Anxiety subscale of the State Trait Anxiety Inventory, which was developed to assess an individual's experiences of anxiety. Examples of questions include, "I am a steady person," and "I lack self-confidence." The

fourth is the Symptom Checklist-90R, which was developed to count the number of symptoms a person experiences. Questions that will be asked include, "How much were you distressed by headaches, poor appetite, or feeling lonely"? The fifth is the Social Readjustment Rating Scale, which was developed to measure the number of important life events experienced. You will be asked to identify which of the listed events occurred in the previous six months to one year of your life. Events that will be listed include change in recreational habits, divorce, or birth of a child. The sixth and last is a demographic questionnaire containing information such as your gender, age, and marital status. Once you have completed the questionnaires and the researcher collects them, your participation in the study will be finished.

Participation is voluntary, and there is no penalty for non-participation.

The results of your participation will be kept anonymous. There will be no identifying record connecting you to the results. Please do not write identifying information on the questionnaires.

All of the results of this study and your questionnaires will be stored electronically on a CD and secured in a locked container as is required by federal guidelines. The only person who will have access to the information will be the researcher.

There are no foreseeable risks involved from your participation in this study. If the questions arouse any stress, participants should consult with a trusted friend or relative or seek a counselor or therapist.

If you decide to participate in this research, completing and returning the questionnaires implies your informed consent.

If you have any questions or concerns regarding the research or your rights as a participant in this study, you may contact Mary Jane Maser, Dr. Robert Massey, and the Institutional Review Board at Seton Hall University, South Orange Avenue, New Jersey 07079. Mary Jane Maser and Dr. Robert Massey can be contacted at telephone number 1-973-761-9450 at the Department of Professional Psychology and Family Therapy at Seton Hall University. The Institutional Review Board at Seton Hall University can be reached by calling 1-973-313-6314. You may also contact the chairperson of the Institutional Review Board at Jersey Shore University Medical Center at 732-776-4850.

Respectfully,

Mary Jane Maser

APPENDIX C: ORAL SCRIPT

Dear Potential Participant,

My name is Mary Jane Maser and I am a doctoral student in the Marriage and Family therapy program in the Department of Professional Psychology and Family at Seton Hall University. The purpose of this research study is to focus on the emotional health of the self.

The estimated time of participation to complete the research study is one hour. There will be six questionnaires administered for the purpose of the study. The first is the Differentiation of Self Inventory which was developed to examine an individual's interpersonal relationships and relationships with their family of origin. Questions include, I try to live up to my parent's expectations, and I wish I weren't so emotional. The second is the Personal Authority in the Family System Questionnaire, which was developed to assess important current relationships in the three-generational family as perceived by the individual. Questions include, how does your success and satisfaction compare to your parents' success and satisfaction and, how often do you seek parental approval? The third is the Trait Anxiety subscale of the State-Trait Anxiety Inventory, which was developed to assess an individual's experiences of anxiety. Examples of questions include, I am a steady person, and I lack self-confidence. The fourth is the Symptom Checklist-90R, which was developed to count the number of symptoms a person experiences. Questions that will be asked include, how much were you distressed by headaches, poor appetite, or feeling lonely? The fifth is the Social Readjustment Rating Scale, which was developed to measure the number of important life event experienced. You will be asked to identify which of the listed events occurred in the previous six months to one year of your life. Events that will be listed include divorce or birth of a child. The sixth and last is a demographic questionnaire that asks for information such as your gender, age, marital status, and other such data. Once you have completed the questionnaires and the researcher collects them, your participation in the study will be over.

Participation is voluntary and there is no penalty for non-participation. The results of your participation will be kept anonymous. There will be no identifying record connecting you to the results. Please do not write any identifying information on the questionnaires. Jersey Shore University Medical Center is not liable for any injury

incurred during the time involved in the participation of this research, nor will any compensation be rendered if injury is sustained.

All of the results of this study and your participation will be kept in a locked container. No compensation is available from Jersey Shore University Medical Center.

There are no foreseeable risks or benefits involved from your participation in this study. If the questions arouse any stress, participants should consult with a trusted friend or relative or seek a counselor or therapist.

If you have any questions or concerns regarding the research or your rights as a participant in this study, you may contact the Chairperson of the Institutional Review Board at 732-776-4850. Completing and returning the questionnaires implies my consent to participate in this research.

APPENDIX D. INFORMATION SHEET

The purpose of the study is to determine construct validity of differentiation of self measures and their correlates. A clinical sample of ninety, married adults attending outpatient counseling at the Meridian Behavioral Health Outpatient Department and ninety married adults who are current behavioral health team members employed at Jersey Shore University Medical Center will be utilized to explore the interrelationships of measurement tools that were designed to assess levels of differentiation of self, a major component of Bowen Family Systems Theory. Other components of Bowen Family Systems Theory that will be examined in relation to differentiation of self include anxiety, triangulation, spousal fusion, individuation, intimacy, dysfunction, and social readjustment.

Participants will be asked to complete six questionnaires. These include: the Differentiation of Self Inventory (DSI) (Skowron & Friedlander, 1998), the Personal Authority in the Family System Questionnaire (PAFS-Q) (Bray, Williamson & Malone, 1984), The Trait anxiety subscale of the State-Trait Anxiety Inventory (STAI-T) (Spielberger, Gorsuch & Lushene, 1970), the Symptom Checklist-90-R (SCL-90-R)(Derogatis, 1994) the Social Readjustment Rating Scale (SRRS) (Holmes and Rahe, 1967), and a demographic questionnaire.

The time to complete them will be less than one hour in length. Once the questionnaires are completed, participation in the study will be over and no identifying data will link the participant to the study. There are no foreseeable risks or benefits involved from participation in this research. No patient specific information will leave

Jersey Shore University Medical Center. There will be no compensation for participation in the research and no costs to the subject for their participation.

APPENDIX E. DEMOGRAPHIC SHEET

Demographic Sheet

Age_____

Gender (circle) Female Male

Culture/Ethnicity_____

Marital Status (circle) Single Married Divorced

Widowed Other

Highest Level of Education:

Yourself _____

Your partner _____

Number of Children_____

Have you used mental-health services in the past? (circle) yes no

If yes, when?

APPENDIX F. DIFFERENTIATION OF SELF INVENTORY (DSI)

Differentiation of Self Inventory

These are questions concerning your thoughts and feelings about yourself and relationships with others. Please read each statement carefully and decide how much the statement is *generally true* of you on a 1 (*not at all*) to 6 (*very*) scale. If you believe that an item does not pertain to you (e.g., you are not currently married or in a committed relationship, or one or both of your parents are deceased), please answer the item according to your best guess about what your thoughts and feelings would be in that situation. Be sure to answer every item and try to be as honest and accurate as possible in your responses.

		Not at all true of me					Very true of me
1.	People have remarked that I'm overly emotional.	1	2	3	4	5	6
2.	I have difficulty expressing my feelings to people I care for.	1	2	3	4	5	6
3.	I often feel inhibited around my family.	1	2	3	4	5	6
4.	I tend to remain pretty calm even under stress.	1	2	3	4	5	6
5.	I'm likely to smooth over or settle conflicts between two people whom I care about.	1	2	3	4	5	6
6.	When someone close to me disappoints me, I withdraw from him or her for a time.	1	2	3	4	5	6
7.	No matter what happens in my life, I know that I'll never lose my sense of who I am.	1	2	3	4	5	6
8.	I tend to distance myself when people get too close to me.	1	2	3	4	5	6
9.	It has been said (or could be said) of me that I am still very attached to my parent(s).	1	2	3	4	5	6
10.	I wish that I weren't so emotional.	1	2	3	4	5	6
11.	I usually do not change my behavior simply to please another person.	1	2	3	4	5	6
12.	My spouse or partner could not tolerate it if I were to express to him or her my true feelings about some things.	1	2	3	4	5	6
13.	Whenever there is a problem in my relationship, I'm anxious to get it settled right away.	1	2	3	4	5	6
14.	At times my feelings get the best of me and I have trouble thinking clearly.	1	2	3	4	5	6
15.	When I am having an argument with someone, I can separate my thoughts about the issue from my feelings about the person.	1	2	3	4	5	6
16.	I'm often uncomfortable when people get too close to me.	1	2	3	4	5	6
17.	It's important for me to keep in touch with my parents regularly.	1	2	3	4	5	6
18.	At times, I feel as if I'm riding an emotional roller coaster.	1	2	3	4	5	6
19.	There's no point in getting upset about things I cannot change.	1	2	3	4	5	6
20.	I'm concerned about losing my independence in intimate relationships.	1	2	3	4	5	6
21.	I'm overly sensitive to criticism.	1	2	3	4	5	6
22.	When my spouse or partner is away for too long, I feel like I am missing a part of me.	1	2	3	4	5	6
23.	I'm fairly self-accepting.	1	2	3	4	5	6
24.	I often feel that my spouse or partner wants too much from me.	1	2	3	4	5	6
25.	I try to live up to my parents' expectations.	1	2	3	4	5	6
26.	If I have had an argument with my spouse or partner, I tend to think about it all day.	1	2	3	4	5	6
27.	I am able to say no to others even when I feel pressured by them.	1	2	3	4	5	6
28.	When one of my relationships becomes very intense, I feel the urge to run away from it.	1	2	3	4	5	6
29.	Arguments with my parent(s) or sibling(s) can still make me feel awful.	1	2	3	4	5	6
30.	If someone is upset with me, I can't seem to let it go easily.	1	2	3	4	5	6
31.	I'm less concerned that others approve of me than I am about doing what I think is right.	1	2	3	4	5	6
32.	I would never consider turning to any of my family members for emotional support.	1	2	3	4	5	6
33.	I find myself thinking a lot about my relationship with my spouse or partner.	1	2	3	4	5	6
34.	I'm very sensitive to being hurt by others.	1	2	3	4	5	6
35.	My self-esteem really depends on how others think of me.	1	2	3	4	5	6
36.	When I'm with my spouse or partner, I often feel smothered.	1	2	3	4	5	6
37.	I worry about people close to me getting sick, hurt, or upset.	1	2	3	4	5	6
38.	I often wonder about the kind of impression I create.	1	2	3	4	5	6
39.	When things go wrong, talking about them usually makes it worse.	1	2	3	4	5	6
40.	I feel things more intensely than others do.	1	2	3	4	5	6
41.	I usually do what I believe is right regardless of what others say.	1	2	3	4	5	6
42.	Our relationship might be better if my spouse or partner would give me the space I need.	1	2	3	4	5	6
43.	I tend to feel pretty stable under stress.	1	2	3	4	5	6

APPENDIX G: PERSONAL AUTHORITY IN THE FAMILY SYSTEM QUESTIONNAIRE (PASF-Q)

Name or Identification: _____

PAFS

Personal Authority in the Family System Questionnaire

Donald S. Williamson, Ph.D., James H. Bray, Ph.D., Paul E. Malone, Ph.D.

INSTRUCTIONS:

The following questions ask about your **CURRENT** relationships with your parents, your spouse and your children. Please select the answers that best reflect your current relationships with these people. There are no right or wrong answers. If you are currently not married answer the questions below as they would apply to your relationship with your most important, current significant other (i.e., mate, steady friend, lover). If you do not have a significant other, then answer the questions as they might apply to your most likely or most recent significant other. If one or both of your parents are deceased, then answer the questions about your deceased parent(s) in terms of how you remember or imagined your relationship(s) to be. If you do not have children, leave the questions about children blank.

REMEMBER: GIVE THE ANSWER THAT BEST APPLIES TO YOU.

	Excellent	Good	Fair	Poor	Very Poor
1) **Quality** of my relationship with my mate	①	②	③	④	⑤
2) **Quality** of my relationship with my children	①	②	③	④	⑤
3) **Quality** of my relationship with my mother	①	②	③	④	⑤
4) **Quality** of my relationship with my father	①	②	③	④	⑤
	Very Satisfied	Satis-fied	Neutral	Dis-satisfied	Very Dis-satisfaied
5) **Satisfaction** of my relationship with my mate	①	②	③	④	⑤
6) **Satisfaction** of my relationship with my children	①	②	③	④	⑤
7) **Satisfaction** of my relationship with my mother	①	②	③	④	⑤
8) **Satisfaction** of my relationship with my father	①	②	③	④	⑤
9) **Satisfaction** with the **frequency of contact** (letter, phone, in person) that you have with your mother.	①	②	③	④	⑤
10) **Satisfaction** with the **frequency of contact** (letter, phone, in person) that you have with your father.	①	②	③	④	⑤
	Totally Respon-sible	Very	Moder-ately	A Little	Not at all respon-sible
11) When your mate is having a distressing problem at work, to what extent do you feel **personally** responsible to provide a solution to the problem?	①	②	③	④	⑤
12) When one of your parents is having a distressing problem, to what extent do you feel **personally** responsible to provide a solution to the problem?	①	②	③	④	⑤
13) When you parents are having a significant problem in their marriage, to what extent do you feel **personally** responsible to provide a solution to their problem?	①	②	③	④	⑤

How does your success and satisfaction compare to your parents' success and satisfaction?	Much less	Less	Same	More	Much more
14) Your mother's financial success	①	②	③	④	⑤
15) Your mother's emotional satisfaction	①	②	③	④	⑤
16) Your father's financial success	①	②	③	④	⑤
17) Your father's emotional satisfaction	①	②	③	④	⑤
	All the time	Most of the time	Half the time	Occa-sionally	Never
18) How often do you think of yourself as your mother's "little boy/girl"?	①	②	③	④	⑤
19) How often do you think of yourself as your father's "little boy/girl"?	①	②	③	④	⑤
20) How reluctant are you to do anything that would elicit an intense emotional response from your parents, such as anger, hurt, shock, or embarrassment?	①	②	③	④	⑤
21) How often do you seek parental approval (for example, how you should handle a personal problem or make an important decision, etc.)?	①	②	③	④	⑤
How necessary is it to you to **MEET** your parents' expectations:	Extremely important	Very impor-tant	Moder-ately impor-tant	A little impor-tant	Not at all important
22) Mother's expectations concerning work	①	②	③	④	⑤
23) Father's expectations concerning work	①	②	③	④	⑤
24) Mother's expectations concerning marriage	①	②	③	④	⑤
25) Father's expectations concerning marriage	①	②	③	④	⑤
26) Mother's expectations concerning parenting	①	②	③	④	⑤
How necessary is it to you to **MEET** your parents' expectations:	Extremely important	Very impor-tant	Moder-ately impor-tant	A little impor-tant	Not at all important
27) Father's expectations concerning parenting	①	②	③	④	⑤
28) Mother's expectations concerning appearance	①	②	③	④	⑤
29) Father's expectations concerning appearance	①	②	③	④	⑤
30) Mother's expectations concerning lifestyle	①	②	③	④	⑤
31) Father's expectations concerning lifestyle	①	②	③	④	⑤
How often do you feel you must **MODIFY YOUR BEHAVIOR** to meet your parents' expectations:	All the time	Most of the time	Half the time	Occa-sionally	Never
32) Mother's expectations concerning my work	①	②	③	④	⑤
33) Father's expectations concerning work	①	②	③	④	⑤
34) Mother's expectations concerning marriage	①	②	③	④	⑤
35) Father's expectations concerning marriage	①	②	③	④	⑤
36) Mother's expectations concerning parenting	①	②	③	④	⑤

		Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
59)	My mate and I have mutual respect for each other.	①	②	③	④	⑤
60)	My mate and I are fond of each other.	①	②	③	④	⑤
61)	My mate has difficulty attending most social events without me.	①	②	③	④	⑤
62)	I have difficulty attending most social events without my mate.	①	②	③	④	⑤
63)	My mate needs my approval for his/her ideas and decisions.	①	②	③	④	⑤
64)	I need my mate's approval for my ideas and decisions.	①	②	③	④	⑤
65)	In disagreements, my mate and I both get everything off our chests.	①	②	③	④	⑤
66)	My mate wants to hear everything that happens while my mate is away from me.	①	②	③	④	⑤
67)	I want to hear everything that happens while my mate is away from me.	①	②	③	④	⑤
68)	My mate worries that I cannot take care of myself when he/she is not around.	①	②	③	④	⑤
69)	I worry that my mate cannot take care of himself/herself when I am not around.	①	②	③	④	⑤
70)	My mate and I are **always** very close to each other.	①	②	③	④	⑤
71)	I can depend on my mate knowing what I really feel whether I tell him/her or not.	①	②	③	④	⑤
72)	I am usually able to disagree with my mate without losing my temper.	①	②	③	④	⑤
73)	My mate is usually able to disagree with me without losing his/her temper.	①	②	③	④	⑤
74)	I often get so emotional with my mate that I cannot think straight.	①	②	③	④	⑤
75)	My mate often gets so emotional with me that he/she cannot think straight.	①	②	③	④	⑤
76)	I help my mate understand me by telling him/her how I think, feel, and believe.	①	②	③	④	⑤
77)	My mate helps me to understand him/her by telling me how he/she thinks, feels, and believes.	①	②	③	④	⑤
78)	I feel my mate says one thing to me and really means another.	①	②	③	④	⑤
79)	My mate feels that I say one thing to him/her and really mean another.	①	②	③	④	⑤
80)	I share my true feelings with my mother about the significant events in my life.	①	②	③	④	⑤
81)	I share my true feelings with my father about the significant events in my life.	①	②	③	④	⑤
82)	My mother and I are important people in each other's lives.	①	②	③	④	⑤
83)	My father and I are important people in each other's lives.	①	②	③	④	⑤
84)	I get together with my mother from time to time for conversation and recreation.	①	②	③	④	⑤

	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
85) I get together with my father from time to time for conversation and recreation.	①	②	③	④	⑤
86) I take my mother's thoughts and feelings seriously, but do not always agree or behave in the same way.	①	②	③	④	⑤
87) I take my father's thoughts and feelings seriously, but do not always agree or behave in the same way.	①	②	③	④	⑤
88) I openly show tenderness toward my mother.	①	②	③	④	⑤
89) I openly show tenderness toward my father.	①	②	③	④	⑤
90) I am fair in my relationship with my mother.	①	②	③	④	⑤
91) I am fair in my relationship with my father.	①	②	③	④	⑤
92) I can trust my mother with things we share.	①	②	③	④	⑤
93) I can trust my father with things we share.	①	②	③	④	⑤
94) My mother and I have mutual respect for each other.	①	②	③	④	⑤
95) My father and I have mutual respect for each other.	①	②	③	④	⑤
96) I am fond of my mother.	①	②	③	④	⑤
	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
97) I am fond of my father.	①	②	③	④	⑤
98) My parents do things that embarrass me.	①	②	③	④	⑤
99) My present day problems would be fewer or less severe if my parents had acted or behaved differently.	①	②	③	④	⑤
100) My parents frequently try to change some aspect of my personality.	①	②	③	④	⑤
101) . I sometimes wonder how much my parents really love me.	①	②	③	④	⑤
102) I am usually able to disagree with my parents without losing my temper.	①	②	③	④	⑤
103) I often get so emotional with my parents that I cannot think straight.	①	②	③	④	⑤
104) I usually help my parents understand me by telling them how I think, feel, and believe	①	②	③	④	⑤
105) My parents say one me and really mean another.	①	②	③	④	⑤
	Very comfort-able	Comfort able	Neutral	Uncom-fortable	Very Uncom-fortable
106) How comfortable are you having sexual relations in the privacy of your own bedroom when your parents are in your home?	①	②	③	④	⑤

How comfortable are you talking to your mother and father about:	Very comfort-able	Comfort able	Neutral	Uncom-fortable	Very Uncom-fortable
107) the private and personal **story of growing up** in his/her family of origin and extended family (i.e., talking about perceptions, thoughts, and feelings about their relationships with father, mother, siblings, aunts, uncles, etc.)?	①	②	③	④	⑤
108) **family secrets** both real and imagined, and about skeletons in the family closet?	①	②	③	④	⑤
109) specific **mistakes or wrong decisions** that he/she made in the past and would like to do again differently (e.g., marriage, marriage partner, occupation, etc.)?	①	②	③	④	⑤
110) to your **opposite-sex parent** about the fact that that parent is no longer the #1 love in your life?	①	②	③	④	⑤
111) to your **same-sex parent** to declare openly the ways in which you are different from that parent in your beliefs, values, attitudes, and behavior?	①	②	③	④	⑤
112) **directly** to your father and mother as peers and equals to say good-bye to him and her as "daddy" and "mommy" and good-bye to yourself as a dependent "little boy" or little girl"?	①	②	③	④	⑤
113) talking **face to face** with your father and mother to make explicit with them that you are not responsible for his/her survival or happiness in life, and that you are not working to meet goals and achievements in life that have been passed on from them (or prior generations) to you?	①	②	③	④	⑤
114) his/her **sexuality** and **sexual experience**?	①	②	③	④	⑤
115) his/her **approaching death**, as to when, where, how, and with what attitude and feelings each of them anticipates this inevitability?	①	②	③	④	⑤
Please indicate in questions 116 to 124 whether you **have** or **have not** discussed the topics above with your parents.	**I have NOT**	**I HAVE**			
116) I have talked with my parents about the topic in **Question 107**	①	②			
117) I have talked with my parents about the topic in **Question 108**	①	②			
118) I have talked with my parents about the topic in **Question 109**	①	②			
119) I have talked with my parents about the topic in **Question 100**	①	②			
120) I have talked with my parents about the topic in **Question 111**	①	②			
121) I have talked with my parents about the topic in **Question 112**	①	②			
122) I have talked with my parents about the topic in **Question 113**	①	②			
123) I have talked with my parents about the topic in **Question 114**	①	②			
124) I have talked with my parents about the topic in **Question 115**	①	②			

	All the time	Most of the time	Half the time	Occa-sionally	Never
125) How often do you share private and personal information about your marriage with your son or daughter?	①	②	③	④	⑤
126) How often does your mate share private and personal information about your marriage with your son or daughter?	①	②	③	④	⑤
127) It feels like my children cannot get emotionally close to me without moving away from my mate.	①	②	③	④	⑤
128) It feels like my children cannot get emotionally close to my mate without moving away from me.	①	②	③	④	⑤
129) Children's problems (behavior, school, physical illness) sometimes coincide with marital conflict or other stress in families. In your view how often does this happen in your family?	①	②	③	④	⑤
130) How often do you and your mate disagree about specific ways to treat your child (i.e., how to discipline or how to respond to request for money or privileges)?	①	②	③	④	⑤
131) How often do you intervene in a disagreement between your mate and your son or daughter?	①	②	③	④	⑤
132) How often does your mate intervene in a disagreement between you and your son or daughter?	①	②	③	④	⑤

For additional information about the **PAFS-Q** look in the **PAFS-Q Manual** or contact:
James H. Bray, Ph.D., 3701 Kirby Drive, 6th Floor, Houston, Texas 77098, (713) 798-7751
EMAIL: jbray@bcm.tmc.edu.; Website: www.bcm.tmc.edu/familymed/jbray.
10 point

APPENDIX I. STATE TRAIT ANXIETY INVENTORY (STAI)

SELF-EVALUATION QUESTIONNAIRE STAI Form Y-1

Please provide the following information:

Name_____ Date_____ S_____

Age_____ Gender (*Circle*) **M** **F** T_____

DIRECTIONS:

A number of statements which people have used to describe themselves are given below. Read each statement and then blacken the appropriate circle to the right of the statement to indicate how you feel *right* now, that is, *at this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	NOT AT ALL	SOMEWHAT	MODERATELY SO	VERY MUCH SO
1. I feel calm	1	2	3	4
2. I feel secure	1	2	3	4
3. I am tense	1	2	3	4
4. I feel strained	1	2	3	4
5. I feel at ease	1	2	3	4
6. I feel upset	1	2	3	4
7. I am presently worrying over possible misfortunes	1	2	3	4
8. I feel satisfied	1	2	3	4
9. I feel frightened	1	2	3	4
10. I feel comfortable	1	2	3	4
11. I feel self-confident	1	2	3	4
12. I feel nervous	1	2	3	4
13. I am jittery	1	2	3	4
14. I feel indecisive	1	2	3	4
15. I am relaxed	1	2	3	4
16. I feel content	1	2	3	4
17. I am worried	1	2	3	4
18. I feel confused	1	2	3	4
19. I feel steady	1	2	3	4
20. I feel pleasant	1	2	3	4

APPENDIX I: SYMPTOM CHECKLIST INVENTORY-90 (SCL-R)

SCL-90-R®

Symptom Checklist-90-R

Leonard R. Derogatis, PhD

Hand-Scored Answer Sheet

ADMINISTRATOR:

BE SURE THE DEMOGRAPHIC INFORMATION ON PAGE 9 IS COMPLETED.

AFTER THE QUESTIONNAIRE IS COMPLETED, DETACH PAGE 9 BY CAREFULLY TEARING ALONG THE PERFORATED LINE. THEN DISCARD PAGES 1 THROUGH 8 AS YOU WOULD OTHER CONFIDENTIAL DOCUMENTS.

PEARSON

PO Box 1416 Minneapolis, MN 55440 800-627-7271
PearsonAssessments.com

Product Number 05675

INSTRUCTIONS:

The SCL-90-R test consists of a list of problems people sometimes have. Read each one carefully and circle the number of the response that best describes HOW MUCH THAT PROBLEM HAS DISTRESSED OR BOTHERED YOU DURING THE PAST 7 DAYS INCLUDING TODAY. Circle only one number for each problem (0 1②3 4). Do not skip any items. If you change your mind, draw an X through your original answer and then circle your new answer (0 1②3④). Read the example before you begin. If you have any questions, please ask them now.

EXAMPLE

0 = Not at all **1 = A little bit** **2 = Moderately** **3 = Quite a bit** **4 = Extremely**

HOW MUCH WERE YOU DISTRESSED BY:

Body aches ..... 0 1 2 ③ 4

0 = Not at all 1 = A little bit 2 = Moderately 3 = Quite a bit 4 = Extremely

HOW MUCH WERE YOU DISTRESSED BY:

1. Headaches 0 1 2 3 4
2. Nervousness or shakiness inside 0 1 2 3 4
3. Repeated unpleasant thoughts that won't leave your mind 0 1 2 3 4
4. Faintness or dizziness 0 1 2 3 4
5. Loss of sexual interest or pleasure 0 1 2 3 4
6. Feeling critical of others 0 1 2 3 4
7. The idea that someone else can control your thoughts 0 1 2 3 4
8. Feeling others are to blame for most of your troubles 0 1 2 3 4
9. Trouble remembering things 0 1 2 3 4
10. Worried about sloppiness or carelessness 0 1 2 3 4
11. Feeling easily annoyed or irritated 0 1 2 3 4
12. Pains in heart or chest 0 1 2 3 4
13. Feeling afraid in open spaces or on the streets 0 1 2 3 4
14. Feeling low in energy or slowed down 0 1 2 3 4
15. Thoughts of ending your life 0 1 2 3 4
16. Hearing voices that other people do not hear 0 1 2 3 4
17. Trembling 0 1 2 3 4
18. Feeling that most people cannot be trusted 0 1 2 3 4
19. Poor appetite 0 1 2 3 4
20. Crying easily 0 1 2 3 4
21. Feeling shy or uneasy with the opposite sex 0 1 2 3 4
22. Feelings of being trapped or caught 0 1 2 3 4
23. Suddenly scared for no reason 0 1 2 3 4
24. Temper outbursts that you could not control 0 1 2 3 4
25. Feeling afraid to go out of your house alone 0 1 2 3 4
26. Blaming yourself for things 0 1 2 3 4
27. Pains in lower back 0 1 2 3 4
28. Feeling blocked in getting things done 0 1 2 3 4
29. Feeling lonely 0 1 2 3 4
30. Feeling blue 0 1 2 3 4

Go on to the next page

0 = Not at all 1 = A little bit 2 = Moderately 3 = Quite a bit 4 = Extremely

HOW MUCH WERE YOU DISTRESSED BY:

31. Worrying too much about things	0 1 2 3 4	**1.** 0 1 2 3 4
32. Feeling no interest in things	0 1 2 3 4	**2.** 0 1 2 3 4
33. Feeling fearful	0 1 2 3 4	**3.** 0 1 2 3 4
34. Your feelings being easily hurt	0 1 2 3 4	**4.** 0 1 2 3 4
35. Other people being aware of your private thoughts	0 1 2 3 4	**5.** 0 1 2 3 4
36. Feeling others do not understand you or are unsympathetic	0 1 2 3 4	**6.** 0 1 2 3 4
37. Feeling that people are unfriendly or dislike you	0 1 2 3 4	**7.** 0 1 2 3 4
38. Having to do things very slowly to insure correctness	0 1 2 3 4	**8.** 0 1 2 3 4
39. Heart pounding or racing	0 1 2 3 4	**9.** 0 1 2 3 4
40. Nausea or upset stomach	0 1 2 3 4	**10.** 0 1 2 3 4
41. Feeling inferior to others	0 1 2 3 4	**11.** 0 1 2 3 4
42. Soreness of your muscles	0 1 2 3 4	**12.** 0 1 2 3 4
43. Feeling that you are watched or talked about by others	0 1 2 3 4	**13.** 0 1 2 3 4
44. Trouble falling asleep	0 1 2 3 4	**14.** 0 1 2 3 4
45. Having to check and double-check what you do	0 1 2 3 4	**15.** 0 1 2 3 4
46. Difficulty making decisions	0 1 2 3 4	**16.** 0 1 2 3 4
47. Feeling afraid to travel on buses, subways, or trains	0 1 2 3 4	**17.** 0 1 2 3 4
48. Trouble getting your breath	0 1 2 3 4	**18.** 0 1 2 3 4
49. Hot or cold spells	0 1 2 3 4	**19.** 0 1 2 3 4
50. Having to avoid certain things, places, or activities because they frighten you	0 1 2 3 4	**20.** 0 1 2 3 4
51. Your mind going blank	0 1 2 3 4	**21.** 0 1 2 3 4
52. Numbness or tingling in parts of your body	0 1 2 3 4	**22.** 0 1 2 3 4
53. A lump in your throat	0 1 2 3 4	**23.** 0 1 2 3 4
54. Feeling hopeless about the future	0 1 2 3 4	**24.** 0 1 2 3 4
55. Trouble concentrating	0 1 2 3 4	**25.** 0 1 2 3 4
56. Feeling weak in parts of your body	0 1 2 3 4	**26.** 0 1 2 3 4
57. Feeling tense or keyed up	0 1 2 3 4	**27.** 0 1 2 3 4
58. Heavy feelings in your arms or legs	0 1 2 3 4	**28.** 0 1 2 3 4
59. Thoughts of death or dying	0 1 2 3 4	**29.** 0 1 2 3 4
60. Overeating	0 1 2 3 4	**30.** 0 1 2 3 4

Go on to the next page

Not at all 1 = A little bit 2 = Moderately 3 = Quite a bit 4 = Extremely

HOW MUCH WERE YOU DISTRESSED BY:

Feeling uneasy when people are watching or talking about you	0 1 2 3 4	**31.** 0 1 2 3 4	**1.** 0 1 2 3 4
Having thoughts that are not your own	0 1 2 3 4	**32.** 0 1 2 3 4	**2.** 0 1 2 3 4
Having urges to beat, injure, or harm someone	0 1 2 3 4	**33.** 0 1 2 3 4	**3.** 0 1 2 3 4
Awakening in the early morning	0 1 2 3 4	**34.** 0 1 2 3 4	**4.** 0 1 2 3 4
Having to repeat the same actions such as touching, counting, or washing	0 1 2 3 4	**35.** 0 1 2 3 4	**5.** 0 1 2 3 4
Sleep that is restless or disturbed	0 1 2 3 4	**36.** 0 1 2 3 4	**6.** 0 1 2 3 4
Having urges to break or smash things	0 1 2 3 4	**37.** 0 1 2 3 4	**7.** 0 1 2 3 4
Having ideas or beliefs that others do not share	0 1 2 3 4	**38.** 0 1 2 3 4	**8.** 0 1 2 3 4
Feeling very self-conscious with others	0 1 2 3 4	**39.** 0 1 2 3 4	**9.** 0 1 2 3 4
Feeling uneasy in crowds, such as shopping or at a movie	0 1 2 3 4	**40.** 0 1 2 3 4	**10.** 0 1 2 3 4
Feeling everything is an effort	0 1 2 3 4	**41.** 0 1 2 3 4	**11.** 0 1 2 3 4
Spells of terror or panic	0 1 2 3 4	**42.** 0 1 2 3 4	**12.** 0 1 2 3 4
Feeling uncomfortable about eating or drinking in public	0 1 2 3 4	**43.** 0 1 2 3 4	**13.** 0 1 2 3 4
Getting into frequent arguments	0 1 2 3 4	**44.** 0 1 2 3 4	**14.** 0 1 2 3 4
Feeling nervous when you are left alone	0 1 2 3 4	**45.** 0 1 2 3 4	**15.** 0 1 2 3 4
Others not giving you proper credit for your achievements	0 1 2 3 4	**46.** 0 1 2 3 4	**16.** 0 1 2 3 4
Feeling lonely even when you are with people	0 1 2 3 4	**47.** 0 1 2 3 4	**17.** 0 1 2 3 4
Feeling so restless you couldn't sit still	0 1 2 3 4	**48.** 0 1 2 3 4	**18.** 0 1 2 3 4
Feelings of worthlessness	0 1 2 3 4	**49.** 0 1 2 3 4	**19.** 0 1 2 3 4
The feeling that something bad is going to happen to you	0 1 2 3 4	**50.** 0 1 2 3 4	**20.** 0 1 2 3 4
Shouting or throwing things	0 1 2 3 4	**51.** 0 1 2 3 4	**21.** 0 1 2 3 4
Feeling afraid you will faint in public	0 1 2 3 4	**52.** 0 1 2 3 4	**22.** 0 1 2 3 4
Feeling that people will take advantage of you if you let them	0 1 2 3 4	**53.** 0 1 2 3 4	**23.** 0 1 2 3 4
Having thoughts about sex that bother you a lot	0 1 2 3 4	**54.** 0 1 2 3 4	**24.** 0 1 2 3 4
The idea that you should be punished for your sins	0 1 2 3 4	**55.** 0 1 2 3 4	**25.** 0 1 2 3 4
Thoughts and images of a frightening nature	0 1 2 3 4	**56.** 0 1 2 3 4	**26.** 0 1 2 3 4
The idea that something serious is wrong with your body	0 1 2 3 4	**57.** 0 1 2 3 4	**27.** 0 1 2 3 4
Never feeling close to another person	0 1 2 3 4	**58.** 0 1 2 3 4	**28.** 0 1 2 3 4
Feelings of guilt	0 1 2 3 4	**59.** 0 1 2 3 4	**29.** 0 1 2 3 4
The idea that something is wrong with your mind	0 1 2 3 4	**60.** 0 1 2 3 4	**30.** 0 1 2 3 4

Turn the page and follow the directions for completing the additional information.

SCL-90-R®

Symptom Checklist-90-R

Leonard R. Derogatis, PhD

Hand-Scored Answer Sheet

ADMINISTRATOR:

AFTER THE QUESTIONNAIRE IS COMPLETED, DETACH THIS PAGE BY CAREFULLY TEARING ALONG THE PERFORATED LINE. THEN DISCARD PAGES 1 THROUGH 8 AS YOU WOULD OTHER CONFIDENTIAL DOCUMENTS.

DIRECTIONS:

Print your name, identification number, age, gender, and test date below.

Name

ID Number

Age Gender Test Date

61. 0 1 2 3 4	31. 0 1 2 3 4	1. 0 1 2 3 4
62. 0 1 2 3 4	32. 0 1 2 3 4	2. 0 1 2 3 4
63. 0 1 2 3 4	33. 0 1 2 3 4	3. 0 1 2 3 4
64. 0 1 2 3 4	34. 0 1 2 3 4	4. 0 1 2 3 4
65. 0 1 2 3 4	35. 0 1 2 3 4	5. 0 1 2 3 4
66. 0 1 2 3 4	36. 0 1 2 3 4	6. 0 1 2 3 4
67. 0 1 2 3 4	37. 0 1 2 3 4	7. 0 1 2 3 4
68. 0 1 2 3 4	38. 0 1 2 3 4	8. 0 1 2 3 4
69. 0 1 2 3 4	39. 0 1 2 3 4	9. 0 1 2 3 4
70. 0 1 2 3 4	40. 0 1 2 3 4	10. 0 1 2 3 4
71. 0 1 2 3 4	41. 0 1 2 3 4	11. 0 1 2 3 4
72. 0 1 2 3 4	42. 0 1 2 3 4	12. 0 1 2 3 4
73. 0 1 2 3 4	43. 0 1 2 3 4	13. 0 1 2 3 4
74. 0 1 2 3 4	44. 0 1 2 3 4	14. 0 1 2 3 4
75. 0 1 2 3 4	45. 0 1 2 3 4	15. 0 1 2 3 4
76. 0 1 2 3 4	46. 0 1 2 3 4	16. 0 1 2 3 4
77. 0 1 2 3 4	47. 0 1 2 3 4	17. 0 1 2 3 4
78. 0 1 2 3 4	48. 0 1 2 3 4	18. 0 1 2 3 4
79. 0 1 2 3 4	49. 0 1 2 3 4	19. 0 1 2 3 4
80. 0 1 2 3 4	50. 0 1 2 3 4	20. 0 1 2 3 4
81. 0 1 2 3 4	51. 0 1 2 3 4	21. 0 1 2 3 4
82. 0 1 2 3 4	52. 0 1 2 3 4	22. 0 1 2 3 4
83. 0 1 2 3 4	53. 0 1 2 3 4	23. 0 1 2 3 4
84. 0 1 2 3 4	54. 0 1 2 3 4	24. 0 1 2 3 4
85. 0 1 2 3 4	55. 0 1 2 3 4	25. 0 1 2 3 4
86. 0 1 2 3 4	56. 0 1 2 3 4	26. 0 1 2 3 4
87. 0 1 2 3 4	57. 0 1 2 3 4	27. 0 1 2 3 4
88. 0 1 2 3 4	58. 0 1 2 3 4	28. 0 1 2 3 4
89. 0 1 2 3 4	59. 0 1 2 3 4	29. 0 1 2 3 4
90. 0 1 2 3 4	60. 0 1 2 3 4	30. 0 1 2 3 4

Product Number

APPENDIX J. SOCIAL READJUSTMENT RATING SCALE (SRRS)

HOLMES-RAHE STRESS TEST

In the past 12 months, which of these have happened to you?

EVENT	VALUE	SCORE	EVENT	VALUE	SCORE
Death of a spouse	100		Son or daughter leaving home	29	
Divorce	73		Trouble with in-laws	29	
Marital separation	65		Outstanding personal achievement	28	
Jail term	63		Spouse begins or starts work	26	
Death of close family member	63		Starting or finishing school	26	
Personal injury or illness	53		Change in living conditions	25	
Marriage	50		Revision of personal habits	24	
Fired from work	47		Trouble with boss	23	
Marital reconciliation	45		Change in work hours, conditions	20	
Retirement	45		Change in residence	20	
Change in family member's health	44		Change in schools	20	
Pregnancy	40		Change in recreational habits	19	
Sex difficulties	39		Change in church activities	19	
Addition to family	39		Change in social activities	18	
Business readjustment	39		Mortgage or loan under $10,000	18	
Change in financial status	38		Change in sleeping habits	16	
Death of close friend	37		Change in number of family gatherings	15	
Change in number of marital arguments	35		Change in eating habits	15	
Mortgage or loan over $10,000	31		Vacation	13	
Foreclosure of mortgage or loan	30		Christmas season	12	
Change in work responsibilities	29		Minor violation of the law	11	
			TOTAL		